

### New group to answer liaison critics

by David Walker

The Government has set up a new consultative group to answer criticism of the lack of liaison between the Training Services Agency and the education service.

This new body is to be led by Mr Roy Helmore, the principal of St Albans College of Further Education, and will have 15 members representing trade unions, industry, the colleges, local education authorities and the Manpower Services Commission, under the aegis of which the TSA falls.

The terms of reference of the National Consultative Group for Training and Further Education are set out in a circular sent this week to local authorities. It will provide a forum to discuss the implications for further education and the TSA of each others' plans and the broad framework of courses, particularly in view of the evolving concept of unified vocational preparation.

Official members of the group are "non-representative" of a particular interest, but Mr Frank McAuliffe, director of the Engineering Industry Training Board, said the group's potential lay in giving views from different sides. Such exchanges will no doubt include the view, heard at the December meeting of the Association of Metropolitan Authorities education committee, that the TSA is the wrong body to have so much money for basically educational purposes.

Within the group have been appointed the National Association of Teachers in Further and Higher Education, for example, another ad hoc body, unconnected with the variety of other related committees and unable to take the necessary broad view across the variety of institutions and qualifications.

The work of the group will unavoidably overlap with that of the National Advisory Council for Commercial and Industrial Education, under discussion in the DES. At one stage last year proposals were mooted for a new body overlooking further education with a secretariat independent of the DES.

The national consultative group for training and further education, whose secretariat and TSA, lay in a three-year-old report for a joint planning group of the two bodies which called for the strengthening of links between them.

### New bursaries benefit Ruskin

Ruskin College, Oxford, has benefited from its new scheme of adult state bursaries, but the scales of grant put severe strain on married students' budgets, says the college's annual report.

The report says that the new arrangements which provide bursaries for all students with three years' residential qualifications have worked well. They "proved a great advance on the previous arrangements for discretionary local government authority awards."

However, the main problem during the year has been the decision of the Department of Education and Science to bring the scales of personal allowances on to a statutory basis of other types of college party report. This meant that further behind the cost of living than did the national average of awards.

The ensuing delay in payment of college dues, arising in many cases from genuine hardship, has increased overwork by the college and administrative staff. The report trusts that this situation will not recur as party has been established.

The college is planning to introduce a regular series of four-week courses for general and potential trade union officials covering the economic, social and political background to trade union work.

### Further education is 'unwanted child'

by Sue Reid

Further education is the unwanted child of the education system and its plight could worsen this year, Mr Charles Clarke, President of the National Union of Students, warned this week.

Opening a national further education conference organized by the NUS at York University, he said that in the present economic situation many local authorities would consider the 16 to 19 age group, in spite of Government promises for this area and the further education colleges, the lowest on their list of priorities in the coming year.

The Prime Minister, Mr Callaghan, had initiated the "great debate" on education last year by arguing that the purpose of providing education was to help industry both in the public and private sector.

"That has also been the trend of the argument at further education level for some time," Mr Clarke said. "The Technical Education Council and the Business Education Council were established with the purpose of streamlining further education provision in this country and to see that courses are prepared with industry in mind."

But he warned: "The representatives of private industry and organizations dominate these bodies. The NUS believes that the purpose of the further education structure is to fulfil the needs of the students, not just to be a training agency for private industry."

The union of students did not want education to be the handmaiden of industry. If that were allowed Mr Callaghan would be going back on what education wanted.

Mr Clarke said further education had to play a bigger part in the NUS. It was now highly important to have an effective organization of students in this sector. The union was now trying to take into account the fact that the overwhelming number of students were in public sector colleges. It was, he said, important that these colleges dominated the current debate on education.

Speaking at the NUS polytechnics conference at York, Mr Clarke predicted that there would be financial pressure in this sector during 1977.

The conclusions of the Layfield Committee on public sector finance, the widespread criticism of the pooling system, the deliberate reduction of cash limits all heralded changes in polytechnic finances. He added that polytechnics would have to absorb vast numbers of teacher education students in the next year and there was also growing support for more advanced students within the polytechnic system. "There will be many who think that the polytechnics to take an elitist road but we believe that

### Conferem for Leitch

Professor Leitch

An international symposium is being planned to mark the sixtieth anniversary of the physicist Professor Ben Leitch, president of the Society of Applied Physics, in the country since applying to emigrate to Israel from his native Poland.

The conference, organized by the Society of Applied Physics, will be held at the University of London, and will be held in the presence of the British Ambassador to the Soviet Union, Sir Derek Burrows, and the Soviet Ambassador to the United Kingdom, Mr. A. A. Gerasimov.

Professor Leitch, who was born in 1917, studied at the University of London and the University of Cambridge, and worked in the Cavendish Laboratory, Cambridge, and the Atomic Energy Research Establishment, Harwell.

He has been a member of the Royal Society since 1960, and has received several international awards for his work in the field of nuclear physics.

He is currently a professor of physics at the Hebrew University of Jerusalem, and is also a member of the Israeli Academy of Sciences and Humanities.

He has published numerous papers on nuclear physics, and has also written several books on the subject.

He is also a member of the International Union of Pure and Applied Physics, and has served on several international committees.

He is also a member of the British Nuclear Society, and has served on several of its committees.

He is also a member of the American Nuclear Society, and has served on several of its committees.

He is also a member of the International Atomic Energy Agency, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

He is also a member of the International Commission on the History of Science, and has served on several of its committees.

### Student sit-ins 'demoralize administrators'

University administrators caught in student sit-ins feel isolated and demoralized, according to a report by the Association of University Teachers on student occupations at seven universities.

Repeated disruptions, which affect the same people every year, can provoke "very strong feelings of indignation" among administrators, leading to a demoralization of both the work and their lives on the side of the university. The apparent lack of disciplinary action against students involved can aggravate this.

The report reveals that administrators have been asked to do unusual tasks during sit-ins, such as potentially very dangerous work in carrying large sums of money in bags across the campus.

On several occasions they have had their personal property tampered with and in some cases personal diaries and address books have been taken and used. The premises occupied by the students are often in a filthy condition, with furniture and equipment in disarray.

The investigation of sit-ins at Birmingham, Lancaster, the London School of Economics, Sussex, Bedford and Warwick, undertaken after the AUT had expressed concern over the adverse impact student disruptions had on its members and the public.

At its council meeting last month the AUT endorsed the executive agreement with the National Union of Students on a code of practice to be followed during student sit-ins. The agreement provides for adequate warning to the AUT of impending sit-ins, which might result in members vacating their place of work before the sit-in takes place.

Members of the executive committee of the AUT, which is the largest of the three unions representing university staff, said the agreement was a "welcome step" towards the resolution of the problem.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

The agreement also provides for the AUT to be consulted on any proposed changes to the code of practice, and for the AUT to be kept informed of any developments in the field of student sit-ins.

# Fees rise will scare off 5,000 postgraduates, universities say

by Frances Gibb

Universities are expecting to lose up to 10 per cent of their 51,000 postgraduates next year because of the proposed increase in tuition fees.

Replying to a survey this month by the University Grants Committee on the likely effect of the increased tuition fees, the universities have indicated that the group they are most concerned about is postgraduates, in particular about 33,000 home postgraduates in particular. They face the steepest increases: from £182 a year to £750 a year.

Universities have estimated reductions in numbers of anything between 10 to 30 per cent among British postgraduates. About 10,000 are privately (as opposed to government) financed.

Lancaster is expecting a drop in British postgraduates of up to one third, or even more, reducing the total intake of 600 to about 530. Overseas postgraduates, however, are expected to maintain their numbers.

The University Grants Committee this week denied reports that it had been told by the Department of Education and Science to cut 1,000 places in education departments and had refused to carry out a survey on it.

Mr J. P. Carswell, the secretary, said the committee was looking carefully at postgraduate numbers in government departments, which are expected to be cut by 1 per cent in university spending.

"The UGC would be failing in its duty if it did not look carefully at teacher-training numbers at a time when teacher unemployment is growing. I would not be surprised if universities don't decide to shade down very slightly the number of post-graduate training places because of the problems of unemployment."

It was most unlikely that any department would have to close. The UGC would be indicating to universities the overall numbers it would expect but no specific guidance would be given on the post-graduate teacher training places.

A spokesman for the Department of Education and Science said there was no substance to recent reports of a confidential document about cutbacks in postgraduate numbers circulating among civil servants. Nor was there any row with the UGC on this subject.

Professor R. D'Aeth, director of Exeter University's School of Education, said education departments have been held back for five years or more in order to allow courses to develop in colleges and polytechnics. "No university department could survive without its PGCE work, he said.

The most recent Government paper to the Advisory Committee on the Supply and Training of Teachers on teacher training numbers said that the universities should retain their 5,000 post-graduate places.

The UGC is thought to be particularly concerned about university departments which have merged with colleges of education and Bangor Exeter. Loughborough and Bangor. Some college students will continue to do PGCE courses, which could prevent other departments growing.

# British Council wins in IUC dispute

by David Walker

A reformed British Council should have exclusive responsibility for coordinating university work overseas, the former committee has reluctantly decided.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

But the committee's report, presented yesterday to the governing council of the IUC, said there would have to be "very stringent conditions" in such a merger for academic autonomy and the recognition of the universities' special expertise.

The committee of eight senior academics led by Sir Michael Swain, chairman of the BBC and former principal of Edinburgh University, has concluded that only a merger between the British Council and the Inter-University Council for Higher Education Overseas can end their long-standing academic demarcation dispute.

# UGC denies row over cuts in teacher training places

by Judith Judd

Universities will probably have to reduce their postgraduate teacher training places, but there will be no sudden drop in numbers.

The University Grants Committee this week denied reports that it had been told by the Department of Education and Science to cut 1,000 places in education departments and had refused to carry out a survey on it.

Mr J. P. Carswell, the secretary, said the committee was looking carefully at postgraduate numbers in government departments, which are expected to be cut by 1 per cent in university spending.

"The UGC would be failing in its duty if it did not look carefully at teacher-training numbers at a time when teacher unemployment is growing. I would not be surprised if universities don't decide to shade down very slightly the number of post-graduate training places because of the problems of unemployment."

It was most unlikely that any department would have to close. The UGC would be indicating to universities the overall numbers it would expect but no specific guidance would be given on the post-graduate teacher training places.

A spokesman for the Department of Education and Science said there was no substance to recent reports of a confidential document about cutbacks in postgraduate numbers circulating among civil servants. Nor was there any row with the UGC on this subject.

Professor R. D'Aeth, director of Exeter University's School of Education, said education departments have been held back for five years or more in order to allow courses to develop in colleges and polytechnics. "No university department could survive without its PGCE work, he said.

The most recent Government paper to the Advisory Committee on the Supply and Training of Teachers on teacher training numbers said that the universities should retain their 5,000 post-graduate places.

The UGC is thought to be particularly concerned about university departments which have merged with colleges of education and Bangor Exeter. Loughborough and Bangor. Some college students will continue to do PGCE courses, which could prevent other departments growing.

A spokesman for the Department of Education and Science said there was no substance to recent reports of a confidential document about cutbacks in postgraduate numbers circulating among civil servants. Nor was there any row with the UGC on this subject.

Professor R. D'Aeth, director of Exeter University's School of Education, said education departments have been held back for five years or more in order to allow courses to develop in colleges and polytechnics. "No university department could survive without its PGCE work, he said.

The most recent Government paper to the Advisory Committee on the Supply and Training of Teachers on teacher training numbers said that the universities should retain their 5,000 post-graduate places.

The UGC is thought to be particularly concerned about university departments which have merged with colleges of education and Bangor Exeter. Loughborough and Bangor. Some college students will continue to do PGCE courses, which could prevent other departments growing.

A spokesman for the Department of Education and Science said there was no substance to recent reports of a confidential document about cutbacks in postgraduate numbers circulating among civil servants. Nor was there any row with the UGC on this subject.

Professor R. D'Aeth, director of Exeter University's School of Education, said education departments have been held back for five years or more in order to allow courses to develop in colleges and polytechnics. "No university department could survive without its PGCE work, he said.

The most recent Government paper to the Advisory Committee on the Supply and Training of Teachers on teacher training numbers said that the universities should retain their 5,000 post-graduate places.

The UGC is thought to be particularly concerned about university departments which have merged with colleges of education and Bangor Exeter. Loughborough and Bangor. Some college students will continue to do PGCE courses, which could prevent other departments growing.

A spokesman for the Department of Education and Science said there was no substance to recent reports of a confidential document about cutbacks in postgraduate numbers circulating among civil servants. Nor was there any row with the UGC on this subject.

# Scots want more women scientists

by Clive Cookson

Holliday hopes to bring in industry science correspondent

The eight Scottish universities are planning a campaign to increase the number of women in their science faculties. Their ideas include developing new courses more suited to the female mind, relaxing entrance requirements for girls who have not specialised in science at school, and mounting a publicity drive in schools.

Representatives from the universities and the Scottish Education Department met in Aberdeen recently and formed a working group to do something about the acute shortage of women science students. This has long alarmed academics but this is the first time the universities have tried to tackle the problem together.

Members of the group are now canvassing opinion in their own universities and the chairman, Professor Fred Holliday, of Aberdeen, hopes they will reassemble within six weeks to draw up proposals.

Professor Holliday, a zoologist, said that at Aberdeen 75 per cent of science students were men, but only 42.1 per cent of art students. The proportions are similar throughout the Scottish universities.

He is using two main arguments to persuade science faculties to be self-righting this imbalance: the self-interest appeal, that an influx of women would help the progress of science itself; and the feeling that society as a whole needs a broader science base.

The essence of the approach is to provide alternative routes through science subjects, designed to appeal to the female mind, relaxing entrance requirements for girls who have not specialised in science at school, and mounting a publicity drive in schools.

Representatives from the universities and the Scottish Education Department met in Aberdeen recently and formed a working group to do something about the acute shortage of women science students. This has long alarmed academics but this is the first time the universities have tried to tackle the problem together.

Members of the group are now canvassing opinion in their own universities and the chairman, Professor Fred Holliday, of Aberdeen, hopes they will reassemble within six weeks to draw up proposals.

Professor Holliday, a zoologist, said that at Aberdeen 75 per cent of science students were men, but only 42.1 per cent of art students. The proportions are similar throughout the Scottish universities.

He is using two main arguments to persuade science faculties to be self-righting this imbalance: the self-interest appeal, that an influx of women would help the progress of science itself; and the feeling that society as a whole needs a broader science base.

The essence of the approach is to provide alternative routes through science subjects, designed to appeal to the female mind, relaxing entrance requirements for girls who have not specialised in science at school, and mounting a publicity drive in schools.

Representatives from the universities and the Scottish Education Department met in Aberdeen recently and formed a working group to do something about the acute shortage of women science students. This has long alarmed academics but this is the first time the universities have tried to tackle the problem together.

Members of the group are now canvassing opinion in their own universities and the chairman, Professor Fred Holliday, of Aberdeen, hopes they will reassemble within six weeks to draw up proposals.

Professor Holliday, a zoologist, said that at Aberdeen 75 per cent of science students were men, but only 42.1 per cent of art students. The proportions are similar throughout the Scottish universities.

He is using two main arguments to persuade science faculties to be self-righting this imbalance: the self-interest appeal, that an influx of women would help the progress of science itself; and the feeling that society as a whole needs a broader science base.

The essence of the approach is to provide alternative routes through science subjects, designed to appeal to the female mind, relaxing entrance requirements for girls who have not specialised in science at school, and mounting a publicity drive in schools.

Representatives from the universities and the Scottish Education Department met in Aberdeen recently and formed a working group to do something about the acute shortage of women science students. This has long alarmed academics but this is the first time the universities have tried to tackle the problem together.

Contents  
Change in Israel  
David Walker describes the achievements and tensions of higher education in Israel in a two-page report, 12-13

THE HEBREW UNIVERSITY  
בית המדרש  
בבית המדרש  
בבית המדרש

Medical threat  
Clive Cookson reports on the growing threat to London's medical schools from Government plans to redistribute health service resources, 7

Area studies  
John Hargreaves argues that area studies are an antidote to introspection and insularity, 15

Theodore Roszak  
Roszak's *Unfinished Animal*, "an excellent guide to contemporary heresy", reviewed by David Martin, 16

People in polytechnics  
Sixty per cent of polytechnic staff do some research, Sue Reid reports, 6

Industrial democracy  
Ralf Dahrendorf discusses the pitfalls of applying industrial democracy to universities, 5

Communicating research  
Jack Meadows describes the work of Leicester's primary communication research centre, 9

Oakes committee to be named soon  
The membership of the committee to coordinate the organisation of higher education in the public sector is to be chaired by Mr Oakes, minister of state at the Department of Education and Science, is to be appointed in the next two or three weeks.

On the other hand	5
Noticeboard	10
Letters	10, 14
North American news	11
Economics books	19-22
Classified index	23

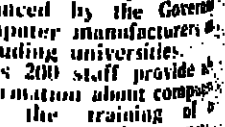
الاصول



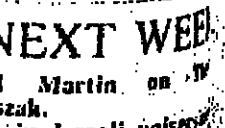
Professor Leitch



Clive Cookson



Prince Philip



David Martin



GOD YOU'RE UGLY - AND PHYSICS IS FABULOUSLY INTERESTING!



# Guy's and Sussex links to be strengthened

by Clive Cookson  
science correspondent

The informal links that have grown between Sussex University and Guy's Hospital Medical School are likely to be strengthened soon by the establishment of a joint working party to investigate collaboration.

Representatives of both sides met recently under the aegis of the South East Thames Regional Health Authority and agreed to set it up. The relevant bodies at the two institutions have yet to give approval. The feasibility of certain collaborative ventures would be considered, including:

- admission of Sussex BSc graduates, who have taken an appropriately constructed biology or biochemistry major, to a shortened medical course at Guy's;

- admission of Guy's students after the bachelor of medicine to take a shortened BSc course at Sussex;

- training of scientists for careers in medical research, and extended contact between research workers at Guy's and Sussex over recent years, helped by the fact that both are within the SE Thames health region and by the good rail links between London Bridge and Brighton.

The planning committee at Sussex has already agreed that the university should join such a working party and that its representatives should be Professor M. W. Thompson, Professor R. J. Cole and Dr J. A. P. Trafford.

Both institutions, and particularly Guy's are very reluctant to talk "on the record" about the long term implications of collaboration, and

the possibility that Guy's might eventually move to the South Coast.

In 1971 the university agreed as a policy objective to increase its involvement in medical science and ultimately to have its own medical school. It recognised that the University Grants Committee was not going to provide the cash to build a new medical school in the foreseeable future and that the way ahead was to develop contacts with a London medical school at the same time as extending its own quasi-medical facilities. Grants for medical research at Sussex now total £300,000 a year.

At the same time the 12 London medical schools have become increasingly worried about their future, as pressure has increased for a substantial shift of health resources from the capital to the provinces. Guy's also has the problem of raising old and inadequate accommodation for its academic departments.

Informal contacts have developed steadily between research workers at Guy's and Sussex over recent years, helped by the fact that both are within the SE Thames health region and by the good rail links between London Bridge and Brighton.

Guy's sends students to Brighton hospitals for some of their later clinical training and the medical school lent assistance when the university set up its medical physics course.

# Cuts have hurt 'but not seriously'

by David Walker



Education has been hurt but not seriously by recent cuts in spending, according to Mrs Williams, Secretary of State for Education. In a speech last week to the North of England Education conference she said that those who grow fat often find slimming most difficult.

In a catalogue of education's achievements in recent years Mrs Williams said: "I am convinced we have resources enough to make our next priority an improvement in quality parallel to the remarkable improvement in its quantity. In the course of doing so, we have to use to advantage the marked decline in birthrate which by 1981 will entail fewer children in primary and secondary schools than there are today."

Achievements included the great expansion of full-time higher education and the numbers of those following further education courses. There had been triumphs of imagination in constructive creation as well, she said, citing the Open University and the foundation of the Council for National Academic Awards.

Education spending had risen during the last decade by over a half while national output only increased by about a fifth. There had been recent cuts, but Mrs Williams repeated her promise to safeguard areas such as in-service training for teachers.

Looking ahead, she said demands made on the education service had

grown. Industry demanded more young people capable of more sophisticated work than formerly. "Many of those who would once have been apprentices now take degrees at universities and polytechnics. That industry is selecting from the cream removed from the generation ago."

She amplified the Prime Minister's remarks last year on the curriculum, arguing that it was wise for children to specialise in the two great divisions of knowledge—the arts and the sciences before adolescence.

The theme of education's link with industry surfaced again, Mrs Williams said: "The juxtaposition in our country of one of the longest periods of compulsory education in the world with a poor record of innovation, low growth, low levels of productivity, low growth, low levels of marketing skills must make us a reflect."

The theme was picked up by other speakers at the conference, held this year at the Madley College, Arthur Bryan, chairman of Wood Ltd, the pottery, argued that education system had failed to keep up with changes in industry.

He complained that recruits were often inadequately prepared and had to be given expensive remedial education to cure their illiteracy and innumeracy. Part of the blame lay with those who had abolished the grammar schools, he said.

# Third World's concern emphasized

by Jane Feinmann

The role of education was the main preoccupation of many Third World delegates at a meeting of the World University Service (WUS) last week at the annual conference in London.

Most of the developing nations were now suffering, on a greater scale, many of the ills which bedevilled Western education, such as the unemployment of school leavers and rising costs, as well as a growing rate of inequality of opportunity.

Professor Richard Jolly, of the Institute of Development Studies, University of Sussex, said the confused state of education in the Third World was highlighted by its anomalies—for the most part students were not given the minimum wage and university graduates could expect to earn over 15 times as much as the unskilled labourer.

He said that immediately after independence, qualified school leavers had been snatched up but five years later the situation had changed. In Sri Lanka 80 per cent of young people between 15 and 20 who had O-level qualifications and were actively seeking work were unemployed in many countries.

Moreover, rising costs in education had increased 40 times as much as Britain's. In the past 15 years since many African countries had become independent the share of national income going on education had doubled.

But most Third World countries still vastly underspent on school equipment, particularly textbooks. Most of the extra money had been spent on increased teachers' salaries.

# Radical change in applied sciences urged

by Owen Surridge

Civilisation will come to an early and disastrous end unless the applied sciences are changed radically in the next 15 years, according to Professor Meredith Tixing, of Queen Mary College, London, when he delivered the annual Macmillan education lecture at Leicester University last week.

To help those engaged in applied science and engineering he has drawn up a humanitarian oath that would require allegiance to ideals of peaceful co-existence, human dignity and self-fulfilment. The oath would bind those taking it to cherish projects connected with war destruction and the creation of armaments.

"At present some 40 per cent of the world's scientists are engaged in devising weapons of war," he

The British Council's operations in Chile were described by Mr Alan Angel, fellow of St Antony's College, Oxford, and secretary of the Academics for Chile campaign. About 40 Chilean students from universities supported by the Chilean military junta are currently studying in Britain with grants from the British Council.

He said the level of repression in universities in Chile was enormous, and there were very few students now attending university whose politics would be at all respectable in this country. It was likely that the British Council would send over students to spy on Chilean academic refugees.

Mr Angel said the British Council's presence in Chile also legitimised their government. He stressed that he had no quarrel with the British Council, but he believed that the British Council office in Santiago, one of its largest in South America, should be closed down.

Mr Angel himself, as a member of the Joint Working Group for Chilean Refugees, had now given 500 awards to Chilean students and lecturers, imprisoned by the junta, of which 410 had been taken up, to help the academics to settle in this country.

Mr Alan Phillips, general secretary of WUS UK, said the Chilean refugee scheme he was taking up a great deal of time at WUS's central office. "It is the most complicated of WUS's programmes. There is the language problem, the fact that most of the people we are helping are in primary immigration to this country, and most of all, the fact that we are dealing with a Government which has no respect for human life."

Mr Phillips said that the Ministry of Overseas Development had recently announced that they would provide WUS with funds for 75 new awards to Chilean refugees. However, as they no longer provide funds, as they had done for the past two years, for grants to Chilean refugees in this country.

Nine leading members of the black South African students' organisation, SASO, have been convicted within the last two weeks of charges under the Terrorism Act after the longest ever trial in South African history.

The trial, which began in June 1975 and ended a few days ago, came to be known in South Africa as "the black consciousness trial". It related to a rally held in 1974 at the University of Natal, Durban, when thousands of black students marched in support of Frelimo, the Mozambique Liberation Front.

Sir Robert Biley, national chairman of WUS, who described the trial at the conference, said he thought it was a great pity that it had received so little publicity in this country.

Sir Robert, who has taught in Soweto, said that SASO, formed in 1969, had become a great enemy of the South African Government. It had no doubt that the trial had been an attempt to finish it off. SASO at a Black People's Convention held in Soweto in 1970. It was this philosophy, Sir Robert said, which had been on trial. The prosecution had set out to prove that "black consciousness" itself was dangerous to the state.

The conference sent a message of sympathy to the SASO leaders, who received sentences of between six and ten years, and their families. It was the first reaction of a British academic body to the trial.

# Interview plays major role in choosing poly

The most important factor in a student's decision to go to a polytechnic is the impression he or she gains in an interview with members of its staff, according to a survey reported in *Trends in Education* published by the Department of Education.

Dr Michael Richards, of Lanchester Polytechnic found from a survey of upper sixth formers two years ago that the major influences in deciding to go to a polytechnic were interviews, the polytechnic prospectus and visits by staff to schools.

Pupils applying to colleges and universities came under the strong influence of friends at school and, in most schools held in the spring before A level is actually taken.

Dr Richards says: "The general picture is one of the established links where teachers, through their experience of college of education and university, consciously or subconsciously influence pupils to take the same paths."

One conclusion that institutions might draw from his work is the importance of the literature they fall on to schools. The prospectus falls no lower than third in Dr Richards's ranking of influences. University influences are ranked as follows: main subject teachers; trial A-level results; prospectus; interview; friends at school; friends at university; head teacher; GCSE O-level results.

Polytechnic influences: polytechnic interview; prospectus; visits by staff to school; friends at polytechnic; visits to polytechnics; main subject teachers; trial A-level results.

College influences: main subject teachers; friends at school; prospectus; head teacher; friends at college; form teachers; trial A-level results. *Trends in Education*, December, 1976. DBS E1.76.

# TES produces careers guide

A book which aims to show the wide range of opportunities for careers in education is published this week. *The Times Educational Supplement Guide to Careers in Education* (Nelson £2.95) includes chapters on prospects in adult education, social work, universities and polytechnics, educational psychology, industrial training and youth and community work.

# Preceptors ask 'Suggestions'

The Council of the College of Preceptors is asking the Department of Education and Science to consider publishing an up-to-date version of its *Forming Handbook of Suggestions for Teachers*.

In a letter to Mrs Williams, Secretary of State, on issues in the current education debate the council also says it believes tests of attainment in the main subject areas should be available for use and suggests that the National Foundation for Educational Research should continue to develop a wide programme of tests.

The council considers the three R's to be of fundamental importance but rejects the idea that the level of attainment in formal school subjects is a satisfactory measure of the value of education.

"The Council, therefore, urges that there should be no heavy dependence to institute tests contrived and administered by the department."

On in-service training, it urges the DES to arrange for adequate resources so that it can be available in all appropriate institutions. It is doubtful about in-service training being conducted solely within the school and using only the school's resources.

# Oxford has £1m surplus

Oxford University had a surplus of nearly £1m at the end of 1975. The surplus, of £477,000 or 1.5 per cent of turnover, is for the most part already committed, the report on the accounts for the year says.

Turnover rose to nearly £30m, a rise, due largely to inflation, of 28 per cent over the previous year. Grants in aid from the University Grants Committee rose by almost £4m to £19,184,000, and there were significant increases in all other sources of income.

The report says it had hoped that the UGC would give full compensation for the cost of the increase in academic and related staff costs, but supplementation fell short of £75,000. The amount spent by academic departments and academic services rose by £4.4m.

# Computer board calls for single linking network

by Clive Cookson  
science correspondent

All universities and polytechnics in Britain should be linked in a single computer network, the Computer Board for Research Councils and Universities says in a policy document published this week.

University computing centres already share facilities on a regional basis, and the Computer Board has set up a unit with the Science Research Council to recommend how to extend these links to form a national network (HES December 17). But until now most polytechnics have had to fend for themselves and buy computing equipment with scarce local authority funds.

Now the board wants to take the polytechnic under its wing. Terminals could be provided to link the 30 polytechnics with each other and the universities in the national network at a cost of £5,000 each, the report says. It also calls for many research workers in polytechnics who need access to the same range of computing facilities as the users in universities; they could be given the opportunity to share advanced and expensive computing facilities and the major machinery of polytechnics could, moreover, become important components of the network.

The report has been published at a time when the board's recurrent costs are rising at a staggering 32 per cent a year from the 1975/76 level of £6.2m. At the board meeting clear at a press conference, their short-term priority must be to sort out this cash crisis.

The chairman, Cranfield's vice-chancellor Dr Henry Chilver, said discussions are taking place within the Department of Education and Science on the financing of recurrent costs; at present they are split about 50:50 between the board and the University Grants Committee (the board pays for almost all new computing equipment).

Meanwhile universities are desperately trimming costs where they can, for example by cutting maintenance during evening and night shifts, and hoping faults show up during the day.

The board estimates that all its proposals could be fully implemented if capital expenditure is maintained at the present level of about £10m a year, but it recognises that the Government cannot commit itself to supporting university computing at any specific level over the next 10 years.

Financial priority should be given to increasing the range of facilities available, such as data storage and manipulation systems and special input and output devices. This is more important than increasing the calculating power of university computers, the board believes.

So far the board has had to work within the Government's "buy British" computer procurement policy, whereby all large computers have to be bought from ICL (International Computers Ltd) unless a case can be proved that the British machine would be significantly better in terms of cost, performance or delivery date.

*Computers in Higher Education and Research: The Next Decade*. HMSO Price 60p.

# Council goes ahead with new Bar diploma to replace exam

by Sue Reid

The Council of Legal Education is going ahead with plans to introduce a new diploma in law for students with non-law degrees which will replace the present part-time Bar examinations.

Courses leading to the new diploma, which is part of the Bar's new policy of limiting entry to the profession to graduates, will be launched at the City University and the Polytechnic of Central London next October.

The council's move has come in spite of the recent decision by the Law Society to postpone its plans for all-graduate entry after 1980. It was originally intended to introduce a Common Professional Examination for non-law graduates which would have been recognized by both branches of the profession. The CPE would also have replaced the Law Society's part-time examination which is now to be continued until 1978 at least.

The new diploma in law will, however, be similar to the hoped-for CPE. Bar students with non-law degrees will take a one-year course on a full-time basis to study the six core legal subjects.

Commenting on the new diploma, Mrs Reid said: "We recognize and understand the difficulties facing the Law Society which has caused it to reach these decisions. The council, however, has already announced its intention to promote understanding of difficulties facing students."

The council had also said that it intended to transfer the "academic" stage for Bar students to academic institutions in September, 1977.

# Students unite in Ulster peace campaign

Students in England and Northern Ireland will join together in a campaign for jobs, peace and progress which hopes to banish the idea that students are supporters of the Provisional IRA.

Though the campaign is a student one, the NUS hopes it will help students to work alongside trade unions in their "Letter Life for All" campaign. There will be public meetings, teach-ins, leafleting and possibly demonstrations.

Miss Sue Shipman, NUS secretary, said this week that the campaign aimed to promote understanding of difficulties facing students.

The NUS supports the withdrawal of British troops in Northern Ireland to barracks pending a complete withdrawal and believes that the troops should be under greater political control.

## Overseas appointments



The Hong Kong Polytechnic came into being on 1st August 1972 as an autonomous institution controlled by its own Board of Governors and financed by the Hong Kong Government through the University and Polytechnic Grants Committee. From a total of 1,700 full-time equivalent students in 1972, it has developed to accommodate 6,400 full-time equivalent students in 1978/79 and by 1978, the student target will be 7,800. Applications are invited for lecturing posts in the following Departments (isable from 1st September 1977).

**Applied Science**  
Principal Lecturer/Senior Lecturer/Lecturer in Chemical Technology.

**Building & Surveying**  
Senior Lecturer/Lecturer in Building Technology (MIBO required).  
Senior Lecturer/Lecturer in Building Services (MIHVE or equivalent required). (Readvertisement).  
Lecturer in Land Surveying (ARCS preferred, finalists with satisfactory experience will be considered).

**Business & Management Studies**  
Principal Lecturer in Law, Transport Studies and Marketing.

**Civil & Structural Engineering**  
Principal Lecturer in Structural Analysis and Design.  
Senior Lecturer in Civil Engineering Construction / Concrete Technology / Traffic Engineering/Highway Engineering.

**Computing Science**  
Senior Lecturers/Lecturers in Systems Analysis, Data Processing, Programming, Systems Programming, Management Information Systems, Graphics, Computer Assisted Instruction and the application of Computers in other disciplines being taught at the Polytechnic. (Readvertisement).

(Applicants with experience in offering computer courses to the general public would be particularly welcome).

**Design**  
Senior Lecturer/Lecturer in Garment Design. (Readvertisement).  
Senior Lecturer/Lecturer in General Design Studies and in General Product Design.

**Electrical Engineering**  
Senior Lecturer/Lecturer in Heavy Electrical Engineering. (Experience in circuit theory, control or measurements and instrumentation required).

**Electronic Engineering**  
Principal Lecturer/Senior Lecturer in Basic Electronic Engineering, Control and Instrumentation, Computer Engineering, Integrated Circuit Application and Fabrication.

**Languages**  
Principal Lecturers/Senior Lecturers in English Language teaching to Commercial and Technical students.

**Textile Industries**  
Principal Lecturer in Knitting Technology. (Readvertisement).

## Conditions of Service

Appointment will be on a 2-year gratuity bearing contract initially. Thereafter suitable appointees may be offered further contracts or supernumerary terms of service at the discretion of the Polytechnic. Benefits include passages, long leave, quarters, medical and dental benefits, education allowances and a terminal gratuity equal to 25 per cent of basic salary received over entire contract period. Applicants should send their Curriculum Vitae and Bio-data immediately to Mr. Ronald Association Director, Hong Kong Polytechnic, c/o Recruitment Unit, TETOC (Technical Education and Training Organisation for Overseas Countries), 35-37 Grosvenor Gardens, London, SW1W 0BS.

Interviews conducted by a team from the Polytechnic and will be held at TETOC in January/February.





Reports from the National Union of Students' policy committee conference

Campaign launched to block tuition fee rise

The National Union of Students has launched a campaign to press university authorities not to implement the proposed tuition fee increases.

At a conference at Durham organized by the NUS for university students, Mr Trevor Phillips, vice-president in charge of overseas affairs, said that if some university authorities do not increase fees, the proposed tuition fee increases would take direct action, including boycotts of lectures and occupations.

The conference passed a motion endorsing this plan of action and calling on the Government to draw up plans for phasing out tuition fees.

Report criticizes 'cautious and secretive' CVCP

The Committee of Vice-Chancellors and Principals is criticized as a "cautious and secretive" body in a report by three members of the universities national committee on the administration of universities.

The CVCP was ignored by the Government on the Alton report on higher education fees and on the report on the provision of capital and revenue for the universities, it says.

The committee should act more as a junior group and less as a Government department, the report says.

Call for check on CIA

Students have called for an investigation of all interference by intelligence agencies in British universities.

The call comes when an article containing allegations of wide CIA involvement in student organizations is due to be published in next month's National Student, the NUS newspaper.

Mr Charles Clarke, president of the NUS, said: "Intelligence agencies are at work on most campuses in this country and we will do everything possible to expose them and root them out."

Mr Francis Beckton, editor of National Student, who commissioned the article from Mr Phillip Kelly, a journalist at Interpress news agency, said much of the evidence came from the student union's own files.

Mr David Aronovitch, the union's vice-president in charge of news, said it was believed that former members of the union and others holding senior posts in the student movement had extensive contacts with intelligence agencies.

Another example was of Iranian students at Leeds University, who had not registered an Iranian student society in their own name for fear of reprisals from Iranian agents, he said.

For full details see your travel agent and ask for our Wintersports brochure or phone us on 01-388 7381.

THOMSON WINTERSPORTS

'Atkinson threatens research'

The conference rejected the Atkinson report on self-renewing libraries as a "gift-wrapped cut" which would endanger university research and scholarship.

It called for a joint working party with the Association of University Teachers and the Standing Conference of National and University Librarians to reconsider a future programme for the libraries.

Delegates highlighted the particular problems of their own university libraries. Durham was one of the first to have its plans for a new library axed, and had to cope with libraries on three sites.

At Dundee periodicals had been cut by 20 per cent two years ago and would be cut by 33 per cent next year, a delegate said.

An Imperial College delegate said the main college library was having to farm out some of its collections to departmental libraries, but this raised the problem of an ever-increasing number of departments.

At Leeds it was feared that some of the special collections of manuscripts would have to be sent away, a delegate said.

Space was the major difficulty at Newcastle. Students had to be moved to a new library in order to secure a place, a delegate said.

The positive suggestion came from the Bradford delegate who said that his university had started using catalogues in microfilm.

Showing increasing impatience over their lowly position within the NUS hierarchy, 400 delegates from further education colleges were present at the annual report of the NUS further education national committee for the second year in succession.

Delegates criticized the FENC (Further Education National Committee) for failing to function effectively and questioned the high membership rate of committee members during their 15 months in office.

Mr Bill Thompson, one of the two remaining members, told the conference that some further education colleges were still unaware that FENC existed.

The conference called for regular up-to-date information about the work of FENC and instructed the committee to distribute the minutes of its meetings to all further education colleges.

A statement issued by the conference declared that a strong fight-back was needed to oppose the Government and local education authorities using the crisis "to interfere in NUS affairs over the question of financial autonomy".

Delegates instructed the FENC to conduct a complete survey of further education covering fees, autonomy and their activities in the past year.

Mr David Jacques, convenor of the FENC, said: "Getting 40 applicants for one course took us by surprise and we had to turn people away like this then we will have to consider holding these courses more often. Unlike previous years applicants were predominantly from universities which have started encouraging staff to attend."

Only Surrey university runs a similar course, which involves making video films of lecturing performances followed by group discussion.

Mr Ziegler, who works for Collins, published an earlier mass observation book, Living Through the Blitz, which the author's founder, the late Tom Harrison.

It is as well to speak clearly when addressing Mr Albert Gimson, professor of phonetics at London University. At a recent conference in Oxford on how to preserve English as the principal international language, he remarked: "We have all met professors of English who know the grammar, but are totally unable to speak it."

First, the question of change is perhaps the most important of all. Some may think that "democracy" is not the relevant term for what I have in mind here; perhaps "representative government" is better. However, the important point is to devise institutions which do not become ossified, which do not perpetuate error, which do not stagnate, and which are therefore capable of change all the time. Significant institutions are bound to become iron cages of bondage.

But authoritarian government is not the only threat to the capacity of an institution to change. Participation, far from guaranteeing flexibility and openness, may in fact stifle change. There is no more conservative form of government than government by referendum (as the Swiss realized a long time ago, and who knows what the motives of those are who copy them today).

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Industry must play role in training, TEC leader says

The relationship between education and industrial training is complementary and the two areas should be brought together as much as possible, Mr Francis Hanrahan, chief officer of the Technician Education Council, said last week.

Speaking at a National Union of Students further education conference at York University, Mr Hanrahan opposed the views of student leaders who called for an autonomous further education system free from intervention from industry.

He said the Technician Education Council had been set up to explore a unified system of technician education in England, Wales and Northern Ireland replacing the present City and Guilds qualifications and the Ordinary and Higher National Diplomas and Certificates.

These, he added, were very good courses but there were too many of them.

Many of the present courses were not purpose-designed. It was difficult for them to meet local requirements and because of this the Technician Education Council had encouraged consultation with industry and employers in devising the new range of courses under the auspices of TEC.

Between now and 1982 300 TEC courses would be introduced in 100 colleges, mainly covering the engineering and construction industries, he said.

In the opening address to the conference Mr Charles Clarke, president of the NUS, warned that further education should not be the handmaiden of industry.

Mr Ashby maintained that the Training Services Agency, set up in 1973, was now wielding growing power. Designed to help industry meet its training needs and to improve training opportunities and methods, it had a £285m budget in 1976 and a staff of 7,600, it currently sponsored 35,000 young people in education.

Commenting on the decline of day-release courses Mr Ashby said that only 20 per cent of school-leavers in the 16 to 19 age group were now undertaking this education route.

The Government's pilot scheme of vocational preparation courses had been offered as a "last-resort" initiative to try to convince the rest of the world that something was happening but once this scheme was developed it would only involve a tiny fraction of school leavers.

He concluded: "Educational advance can only be achieved by a real increase in resources. The union does not like the idea of business determining what is happening in this country in education."

Attempt to strengthen FE's hand gains momentum

Attempts to strengthen the hand of the further education sector within the National Union of Students gained momentum at the NUS further education policy conference.

Showing increasing impatience over their lowly position within the NUS hierarchy, 400 delegates from further education colleges were present at the annual report of the NUS further education national committee for the second year in succession.

Delegates criticized the FENC (Further Education National Committee) for failing to function effectively and questioned the high membership rate of committee members during their 15 months in office.

Mr Bill Thompson, one of the two remaining members, told the conference that some further education colleges were still unaware that FENC existed.

The conference called for regular up-to-date information about the work of FENC and instructed the committee to distribute the minutes of its meetings to all further education colleges.

A statement issued by the conference declared that a strong fight-back was needed to oppose the Government and local education authorities using the crisis "to interfere in NUS affairs over the question of financial autonomy".

Delegates instructed the FENC to conduct a complete survey of further education covering fees, autonomy and their activities in the past year.

Mr David Jacques, convenor of the FENC, said: "Getting 40 applicants for one course took us by surprise and we had to turn people away like this then we will have to consider holding these courses more often. Unlike previous years applicants were predominantly from universities which have started encouraging staff to attend."

Only Surrey university runs a similar course, which involves making video films of lecturing performances followed by group discussion.

Mr Ziegler, who works for Collins, published an earlier mass observation book, Living Through the Blitz, which the author's founder, the late Tom Harrison.

On the other hand

How to bitch

As part of my comprehensive service to readers, I now offer advice on how to write a bitching letter in times of bad review. As you know the prime requirement for an author is the capacity to croak out for three solid columns of cataract mud-slinging whenever attacked in print.

Letters columns of journals are frequently filled with month-long wrangles between the author of, say, Body Language in Llamas, and the only other biper in the constituency who knows enough about it to disagree.

The aim is to continue such correspondence until long after the original point of contention has been forgotten by the readers and one or both of the disputants (whom I shall hereafter call "Thickpacket" and "Fruitypacket") not because I fear the laws of libel, but because I do not want any of them to start writing to me.

Some, of course, need little instruction. One recent THES correspondent wrote that there were "not slightly over 200 pages in my book, as Thickpacket suggests, but 211". I can teach that man nothing.

However, for those of insufficient vivacity I can offer a few tips. The first tip is to abandon all politeness. Never refer to your critic as "Professor Thickpacket" and never, never, never as "Arthur". Thickpacket, remember, is the sort of man who, although a literary critic, is still apologetically sitting on top of an elephant shouting at cooles.

In his recent THES review of Fruitypacket's autobiography, Thickpacket wrote: "This book, which covers only the first 20 years of Fruitypacket's life, leaving one with a dread of several volumes to come, is intensely boring. If it is a true reflection then the author is a gauche, introverted boring personality to whom nothing of any interest ever happens."

Now, clearly, confronted with piranha-quelling sentiments of this order, it would be quite inadequate to respond with, say: "I want Arthur to know that his review has upset my mother." He would be well advised to spend a couple of hours browsing through that classic of the genre, the letters column of The Times Literary Supplement.

The second tip is to cast doubt upon the credibility of the critic. Here he will find essential plays number two, three and four. In attempting to prove the unreliability of my book Thickpacket (whose ethnography is incidentally appalling) reveals his own nit-picking attitude and scientific illiteracy.

The third tip is to cast doubt upon the credibility of the editor. We cannot, of course, expect syncretic reviews, particularly when you insist upon employing astounding, highly limited reviewers like Thickpacket.

The fourth tip (slightly more unusual this) is to cast doubt upon the credibility of the Post Office. There are not 428 footnotes in my book, but 47. It does not have 11 chapters, but 12. From these and other even greater enormities, I can review copy was lost in the post and his comments were devised reading it first.

Any combination of these four should see him off quite successfully.



Thickpacket: still on top of an elephant

Grouping interest among academics in brushing up their teaching skills has caught the London University teaching methods unit on the hop. Its course attracted double the usual number of applicants which enlisted at the last minute.

Mr David Jacques, convenor of the FENC, said: "Getting 40 applicants for one course took us by surprise and we had to turn people away like this then we will have to consider holding these courses more often. Unlike previous years applicants were predominantly from universities which have started encouraging staff to attend."

Only Surrey university runs a similar course, which involves making video films of lecturing performances followed by group discussion.

Mr Ziegler, who works for Collins, published an earlier mass observation book, Living Through the Blitz, which the author's founder, the late Tom Harrison.

It is as well to speak clearly when addressing Mr Albert Gimson, professor of phonetics at London University. At a recent conference in Oxford on how to preserve English as the principal international language, he remarked: "We have all met professors of English who know the grammar, but are totally unable to speak it."

First, the question of change is perhaps the most important of all. Some may think that "democracy" is not the relevant term for what I have in mind here; perhaps "representative government" is better. However, the important point is to devise institutions which do not become ossified, which do not perpetuate error, which do not stagnate, and which are therefore capable of change all the time. Significant institutions are bound to become iron cages of bondage.

But authoritarian government is not the only threat to the capacity of an institution to change. Participation, far from guaranteeing flexibility and openness, may in fact stifle change. There is no more conservative form of government than government by referendum (as the Swiss realized a long time ago, and who knows what the motives of those are who copy them today).

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Wash words

English dialects shed words as a tree does leaves and in Lincolnshire Mr G. Edward Campion has been sweeping up the downfall. His recently published little book, Lincolnshire Dialects (£2.25 hardback, £1.20 lamp) collects and examines words which either have or soon will pass out of common usage between the Humber and the Wash.

A regular contributor to the speech and lore archives of the Centre for English Cultural Tradition and Language at Sheffield University, he has recorded a number of marvelous words which will be sad to lose: belly timber (food), to gawster (to laugh loudly), a beezum (an old hag), to catch gawp seed (to stand in open-mouthed amazement) and pomandish (tadpoles).

But while "pomandish" has been saved by passing into standard English, the more imaginative "blind man's holiday" (twilight) and "Jerusalem nightingale" (donkey) have not.

Philosophically, Mr Campion says "it is not desirable that we should preserve them artificially for normal use". A language must follow its own course, he argues.

He is right. I have been peppering my conversation liberally with "give it some welly" (accelerate) and "mids-waiy" (an instruction to a horse to turn gently left) but I do not catch on among my acquaintance.

It is high time we were all speculating on who will succeed Lord Butler as Master of Trinity College, Cambridge. Although he does not retire until June, 1978, a successor is almost certain to be announced in the latter half of this year. It gives the Cambridge Evening News a welcome chance to talk about "plum jobs" and "whispered names".

This newspaper seems to have built up an indelible picture of a Cambridge scientist, since Lord Butler is an arts man, and his mastership has established something of an arts-science alternation. "Whispered names" so far have included the Cambridge Astronomer Royal, Martin Ryle and Sir Alan Hoddgkin, former Royal Society President.

For this reason, industrial democracy is a subject high on the agenda of my political platform. And whether or not it is a sensible exercise any kind of control over those who take decisions affecting them; in this sense enfranchisement is a part of democracy.

Such control may be effective, but it is neither relevant nor representative. To the extent to which this is feasible, democratization should, I believe, be intra-organizational rather than extraneous.

The third point about the assertion of this interest of all has to do with important consequences. While it means that everybody in a university should have a say in some respects, there is no case for a unicameral system of representation. Members of the administrative and technical staff may have views about the teaching of economics or methods of appointing lecturers, and it would be bad government not to listen to such views, but there is no way in which an interest which would justify their participation in the relevant process.

A similar case can be made for students. It can be made for members of the academic staff also. I find it difficult to see why professors, as such should be qualified to decide conditions of employment of administrative and technical staff, and I have often misread the personal council of alecting representatives of staff groups, charged with discussing conditions of employment) which all organizations in Germany have under law.

In practice, principles are not the only guide to action. Undoubtedly, the vice-chancellors will reach their own conclusions on industrial democracy in universities in due course. But they must not be irrevocably committed in the process that while democratization is necessary, it must mean the creation of flexibility, of initiative and control, rather than ossification by pseudo-participation. It must involve open and accountable government; open to all groups; and it must recognize the differences and varieties of interests in academic institutions. Academic democracy is of necessity a complex set of arrangements.

Similarly, universities do not become democratic by say, a system of government and control which leads to regular elections of management and its continuous quasi-parliamentary control within the enterprise; industry simply becomes a participant in this manner until in the end the job of the democratic participants are endangered.

There are many ways of defining what democracy is about, and few which make sense in a show and necessarily somewhat superficial article. I would therefore make no great theoretical claims for singling out three statements: Democracy is about change without dislocation. Democracy is about power under relevant control. Democracy is about the assertion of the interest of all. Let me pursue all three points for a moment with universities in mind (although much of what I want to say may be applicable to other institutions also).

First, the question of change is perhaps the most important of all. Some may think that "democracy" is not the relevant term for what I have in mind here; perhaps "representative government" is better. However, the important point is to devise institutions which do not become ossified, which do not perpetuate error, which do not stagnate, and which are therefore capable of change all the time. Significant institutions are bound to become iron cages of bondage.

But authoritarian government is not the only threat to the capacity of an institution to change. Participation, far from guaranteeing flexibility and openness, may in fact stifle change. There is no more conservative form of government than government by referendum (as the Swiss realized a long time ago, and who knows what the motives of those are who copy them today).

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

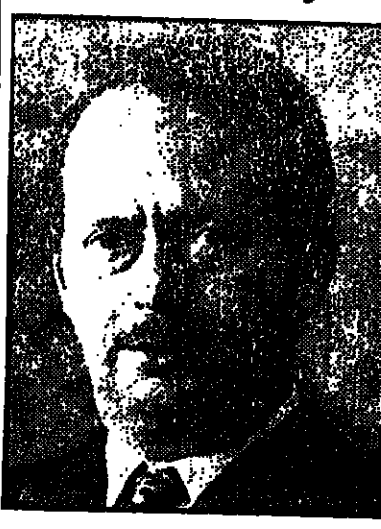
Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Action and debate in a democracy



Ralf Dahrendorf

It is easy to see that the report by the Bullock committee will give new momentum to the debate about industrial democracy, and that is as it should be. Whatever disenchantsments may have overcome some of those who traditionally pressed for an extension of modernity, the fact remains that citizenship, the fact remains that democracy is more than a constitutional arrangement in the narrow realm of politics. An enlightened industrial democracy cannot function except in a society which is dominated by democratic values throughout.

One may not like the term "democratization"—I dislike the word, although I approve of the idea—but unless democracy is firmly anchored in all social institutions, it is not likely to function in the political community either.

For this reason, industrial democracy is a subject high on the agenda of my political platform. And whether or not it is a sensible exercise any kind of control over those who take decisions affecting them; in this sense enfranchisement is a part of democracy.

Such control may be effective, but it is neither relevant nor representative. To the extent to which this is feasible, democratization should, I believe, be intra-organizational rather than extraneous.

The third point about the assertion of this interest of all has to do with important consequences. While it means that everybody in a university should have a say in some respects, there is no case for a unicameral system of representation. Members of the administrative and technical staff may have views about the teaching of economics or methods of appointing lecturers, and it would be bad government not to listen to such views, but there is no way in which an interest which would justify their participation in the relevant process.

A similar case can be made for students. It can be made for members of the academic staff also. I find it difficult to see why professors, as such should be qualified to decide conditions of employment of administrative and technical staff, and I have often misread the personal council of alecting representatives of staff groups, charged with discussing conditions of employment) which all organizations in Germany have under law.

In practice, principles are not the only guide to action. Undoubtedly, the vice-chancellors will reach their own conclusions on industrial democracy in universities in due course. But they must not be irrevocably committed in the process that while democratization is necessary, it must mean the creation of flexibility, of initiative and control, rather than ossification by pseudo-participation. It must involve open and accountable government; open to all groups; and it must recognize the differences and varieties of interests in academic institutions. Academic democracy is of necessity a complex set of arrangements.

Similarly, universities do not become democratic by say, a system of government and control which leads to regular elections of management and its continuous quasi-parliamentary control within the enterprise; industry simply becomes a participant in this manner until in the end the job of the democratic participants are endangered.

There are many ways of defining what democracy is about, and few which make sense in a show and necessarily somewhat superficial article. I would therefore make no great theoretical claims for singling out three statements: Democracy is about change without dislocation. Democracy is about power under relevant control. Democracy is about the assertion of the interest of all. Let me pursue all three points for a moment with universities in mind (although much of what I want to say may be applicable to other institutions also).

First, the question of change is perhaps the most important of all. Some may think that "democracy" is not the relevant term for what I have in mind here; perhaps "representative government" is better. However, the important point is to devise institutions which do not become ossified, which do not perpetuate error, which do not stagnate, and which are therefore capable of change all the time. Significant institutions are bound to become iron cages of bondage.

But authoritarian government is not the only threat to the capacity of an institution to change. Participation, far from guaranteeing flexibility and openness, may in fact stifle change. There is no more conservative form of government than government by referendum (as the Swiss realized a long time ago, and who knows what the motives of those are who copy them today).

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

What matters in a democratic institution is the right balance of initiative and control. There is to be identifiable responsibility for action, and an encouragement to take action, but such action has to be subject to effective control. It is this which removes responsibility in the name of democracy. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.

Indeed the permanent participation of all in everything has led to the permanent frustration of all. The danger is not the tyranny of the majority, but the tyranny of the minority. I have seen universities in which this has happened, and they are now totally incapable of implementing any kind of relevant change.



# Almost 60 per cent polytechnic staff do research

The resources to undertake research are essential in any institution involved in higher education, a research team from the Polytechnic of North London has indicated in a new book: *People in Polytechnics*. The book reports on a national survey of staff and students undertaken by the team in 1972-73 which revealed that nearly 60 per cent of the polytechnic academics interviewed were involved in some aspect of research.

The scope of the survey, conducted by Caroline Cox, Maurice Mealing and Julia Whitburn, was wide, incorporating basic demographic profiles and the views of people in the polytechnics at the time. The book examines the background of staff and students, student housing, the development of the Council of National Academic Awards and its effect on polytechnics, and the role of research.

Fifty-nine per cent of staff interviewed were doing some research. Overall 63 per cent of degree staff and 53 per cent of non-degree staff were involved in research work, but the variation between polytechnics was considerable. Significant differences also arose when research involvement was analysed by length of service and age. Sixty-four per cent of staff who had been in their polytechnics for 10 years or less were working on research, falling to 48 per cent among staff in post for more than 10 years.

The book examines the amount of time spent on research by various grades of staff. The survey showed that when promoted to senior lecturer level they have more time for research because teaching loads are lighter. This gain is eroded by administrative responsibilities as principal lecturer and head of department level.

A greater proportion involved in research in 1972-73 had better academic qualifications than those not doing research. Many had an educational background which more closely resembled that of their counterparts in the university sector, says Sarah Robinson, a research assistant at the Polytechnic of North London, in the section on the role of research.

The career situation for research staff in polytechnics is very unsatisfactory, however. "While readers are generally appointed on a permanent basis, most research fellows and assistants are on short-term contracts and it has been difficult to build up an ongoing source of expertise."

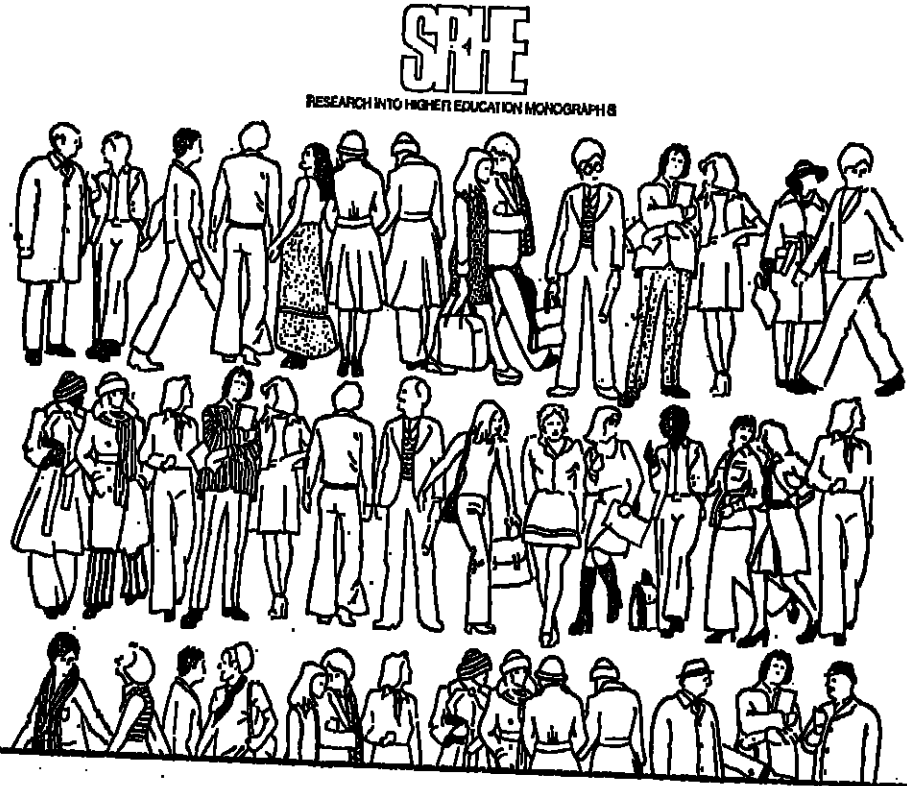
At the time of the survey there was substantial evidence of the development of all kinds of research activities in the polytechnics. But the survey highlighted some of the difficulties encountered by polytechnic staff and students in terms of both the organization and the financing of research.

"It can be said that the opportunity and the resources to undertake research must be an essential aspect of the work of any institution in higher education, and staff at the Open University have recently emphasized their need to have adequate research resources. The dilemma for the polytechnics has been in developing and maintaining high academic standards at the same time as operating within the constraints of the publicly controlled further education system."

Giving a general profile of students in 1972-73 the book says that, overall, 64 per

## People in Polytechnics

by Julia Whitburn, Maurice Mealing, Caroline Cox



cent of degree students and 65 per cent of other full-time students were from "middle class" backgrounds. However, it points out that in 12 polytechnics this figure fell to 60 per cent or lower.

Eighty-two per cent of all degree students in the sample had a two A-level qualification but this proportion fell to 28 per cent among those on part-time non-degree courses. An analysis of faculty vacancies revealed that students in the science, engineering and technology faculties were noticeably less well qualified in terms of A levels than their counterparts on social science, arts and professional training courses.

The book says that as a group polytechnic students on degree courses in 1972-73 were not as well qualified as their university counterparts if the A-level "scoring" system is used as the significant indicator.

Newspaper advertisements were responsible for the recruitment of only 7 per cent of polytechnic students. Far more significant was the advice from school or college careers advisers, about 38 per cent, and employers,

a similar number. Fifty per cent of the degree students maintained they had chosen their course and polytechnic as a "second best" substitute for a university place. But 21 per cent of full-time students generally said that their polytechnic was the best place for their particular course, while 25 per cent of part-time students said their polytechnic was the only place available which offered the course of their choice.

The research team responded to the fact indicated that they would have preferred a university place by investigating this area in depth. They found that 67 per cent of full-time degree students in the sample had applied for a university course. The percentage in this category rose to 83 as one polytechnic in the southwest and to 81 at another in the Midlands.

"This surely raises the whole question of the role which polytechnics are to play in the field of higher education," says the book. "On the one hand it could be said that they fulfill an important function in offering a second chance to failed university applicants,

on the other hand it could be argued that the polytechnics should be more concerned to offer places on their degree courses to those students without conventional academic qualifications."

Commenting further on this the team says that greater flexibility of entry requirements might be considered for degree courses themselves, or via a Diploma of Higher Education route. "We would tentatively suggest the more further thought might be given to the adoption of a less stringent policy for admissions to DipHE courses. Many students might then be able to find their way into higher education, and then find their own way within it without having to surmount the A-level barrier."

The survey showed that 74 per cent of polytechnic staff had a first degree, compared with 94 per cent in the university sector. A greater proportion of the teaching staff in polytechnics graduated from civic universities—51 per cent compared with 27 per cent in the university sector. It revealed that while Oxbridge was more strongly represented in the university sector, the former colleges of advanced technology had 10 per cent of Oxbridge graduates among their staff, a similar number to the 10 per cent found in the polytechnics.

Forty-one per cent of polytechnic staff had a first or upper second class honours degree. Thirty-one per cent had gained a master's degree and 16 per cent a doctorate.

But the book points out: "The information on staff provided by the survey indicates that there is little room for complacency. Since their formal designation as staff centres of higher education the polytechnics appear to have been successful in attracting staff with good academic qualifications, but there is clearly cause for concern over the staff's assessment of many aspects of the teaching situation and college facilities."

In the years since 1964 the CNAAs have become an essential part of polytechnic life without it would be "unimaginable" for the team. "Many of the courses in polytechnics are strikingly innovative both in subject matter and structure when contrasted with traditional university courses and the CNAAs have been astute in attempting to ensure that academic standards have not been sacrificed in the cause of innovation."

"We have seen throughout the survey an increased satisfaction of both staff and students with the newer CNAAs-approved courses and this must be regarded as a major achievement."

"To survive, says the book, the polytechnics now have to demonstrate that the education they provide fits the requirements of a society needing to reappraise its role in the face of advanced technological change. Without a major financial cutback, the polytechnics should be capable of preparing the trained and skilled manpower needed in the future. *People in Polytechnics*, a survey of polytechnic staff and students, 1972-73, by Julia Whitburn, Maurice Mealing, Caroline Cox; published by the Society for Research into Higher Education, the University of Surrey, Guildford. Price £4 (SRIHE members £3).

Clive Cookson, science correspondent, reports on new proposals for health resources

# Is RAWP a four letter word or a fair future for medicine?

An ugly new word is being mumbled round the lecture theatres and wards of London's medical schools and teaching hospitals—RAWP. Like some other four letter words it is used as a noun, a verb or just a swear word; its meaning is unpleasant as it sounds.

Up in the crumbling hospital of North West London, however, RAWP has a very different meaning. There it is a word full of promise, stirring visions of a brighter, fairer future.

It stands for the Resource Allocation Working Party of the Department of Health and Social Security. At the end of September the DISS published the working party's report, *Sharing Resources for Health in England*, whose recommendations were warmly welcomed by the Secretary of State for Social Services, Mr David Ennals. It is these proposals that have become known throughout British medicine as RAWP.

Mr Ennals described RAWP as a method of putting an end to "unjustifiable inequalities" in the way medical resources have been distributed. "Parts of the country which have had more hospital beds have received a bigger share of the money solely for this reason and without proper recognition of the greater need of other areas where the inheritance of health service facilities was less generous."

RAWP's underlying objective is "to secure a fairer resource allocation, that there will eventually be equal opportunity of access to health care for people at equal risk". In other words, resources will be distributed entirely according to need rather than to a defined demand, as at present—demand which, RAWP accepts, can never be satisfied and is a misleading indicator of need because "supply of health care actually fuels further demand".

The proposals involve setting annual targets for revenue allocation at regional, area and district levels. These are obtained from population figures weighted to take account of age, sex, mortality (as an indicator of morbidity), fertility and marital status, and adjusted to allow for patients who cross administrative boundaries and for cost differences. Actual allocations would bring each region, area and district as close as possible to its target "subject to safeguards against excessively rapid change".

Revenue allocations will be topped up by a Service Increment for Teaching (SIFT) to cover the additional costs of services to patients in teaching hospitals, but not the extra costs involved in being centres of excellence (no contribution towards teaching or research costs is to be made because these are assumed to be met entirely from education funds).

SIFT will be based on target student numbers for 1980-81 (disregarding research students) and will cover 75 per cent of the average excess cost of teaching compared to non-teaching hospitals. For the four Thames regions it will be increased to allow for London weighting and the effects of lower University Grants Committee funding of London Medical schools, but London teaching hospitals will still be left with residual excess costs of £11.6m not covered by SIFT. On the other hand SIFT will more than make up for the excess costs of some provincial teaching hospitals—in Newcastle by more than £1m.

The regions that stand to gain most from RAWP are the North West and Trent both more than 10 per cent below their revenue targets followed by West Midlands, Yorkshire, Wessex and the North. The biggest losers are the four Thames authorities, which cover London and the Home Counties (North West and North East Thames are about 15 per cent above target).

Capital allocations will eventually be based on population weighted as for revenue, but in the short term there will be additional restrictions on investment in regions with more than their fair share of existing capital stock: NE, NW and SW Thames, East Anglia, Oxford and Mersey.

A large majority of the medical profession, even in London, accept in principle that Britain's health resources are unequally distributed, and in particular that capital has more than its fair share of the best facilities. But many feel that RAWP would be a disastrous way to put the imbalance right.

Of course RAWP faces its most intense hostility in the London medical schools, where it has acted as a focus for more general fears for the future that have been growing for the past two or three years.

This worry extends from the deans and professors down to new students. Mr Douglas Renger, dean of Middlesex Hospital Medical School, says intake is being affected because applicants are worried by rumours that one or two of London's medical schools are going to be forced to close down or move to the provinces. From the relative detachment of the south coast, Professor Donald Acheson, dean of Southampton University Medical School, sees morale at all 12 London schools being damaged by persistent "planning blight", intensified by RAWP.

There are almost as many different objections to RAWP as doctors in London. Some of the points made most often include:

● RAWP will effectively shift resources away from education and training to general medical services, severely jeopardizing the long-term

future of British medicine. As Mr George Banton, of University College Hospital, spokesman for the chairman of the London teaching hospitals, put it: "Present circumstances have combined to produce a situation in which the public, the politicians and a majority of the medical profession (those working outside university hospitals) see short-term political advantage in a policy which must result in a very serious contraction in the quality of medical care available in the teaching centres of the United Kingdom and lead to a disastrous shortage of doctors of all kinds."

● Resource reallocations must wait for a detailed assessment of the country's long-term health needs. If the mathematical formulae of RAWP are applied and economic forces are then allowed to do their work, said Mr Rangor, the results are bound to be damaging.

● Even within its limitations, RAWP is inaccurate and ill-informed. Mr Banton said: "The proposals are so theoretically contrived, and based on dubious statistics and indicators of need, that rather than relieving hardship and distress they will make them worse."

● SIFT should recognize that, as regional and national centres of medical excellence, teaching hospitals incur extra costs that go well beyond their teaching role.

● The timing is wrong. It is relatively easy to redistribute a growing cake, since those who lose out in the process will not have to suffer an actual reduction in the size of their slices; but to implement RAWP in the late 1970s when little growth in national wealth is expected, will disrupt London hospitals so seriously that they will find it hard to recover if and when economic expansion returns in the 1980s.

● The good intentions of RAWP will be thwarted by the complex bureaucratic structure of the health service, with its three tiers of regions, areas and districts. The distribution mechanism works primarily at regional level, and, although the same principles are meant to operate within regions, the increasing local politicization of the health service is likely to distort the pattern. In particular, local political pressures may prevent provincial teaching hospitals seeing much of the money taken from their London counterparts.

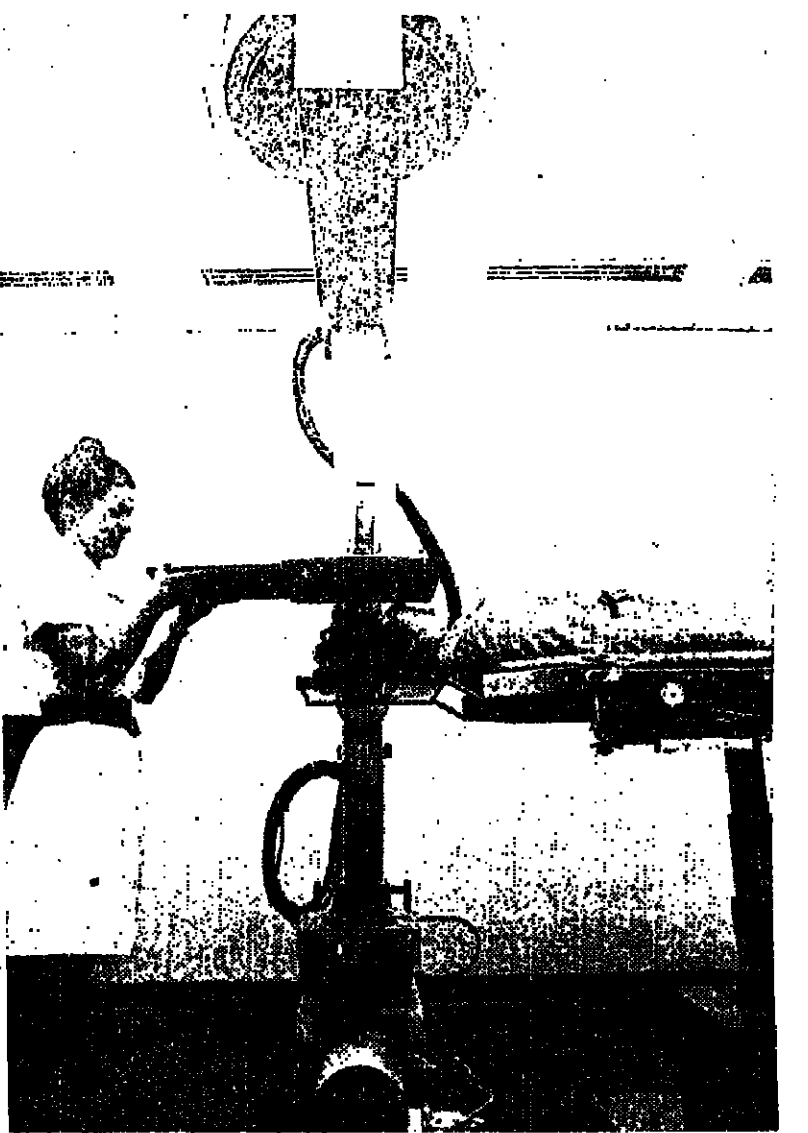
● RAWP is a red herring. Effort should be concentrated on increasing resources available to the health service as a whole, for example by improving efficiency, reducing bureaucracy and finding new sources of revenue (perhaps by extracting some financial contribution from patients who can afford it).

His main worry is that the "hands thrown up in horror" in the privileged regions may persuade the Government quietly to "drop RAWP" especially as London schools "have the ear of and are much closer than us to the chaps who run the DHSS".

Dr Beswick calls the North-West a "grossly underprivileged region" with £75m less than its fair share of hospital buildings. "Thanks to the UGC we have one of the most modern medical schools in the world, yet our teaching hospitals are either dilapidated or antiquated. RAWP will not be concentrated on the teaching hospitals of Manchester, and are likely to be spread over many inadequate general hospitals in the North West. However even this would help his students, who spend considerable periods gaining experience in non-teaching hospitals throughout the region, because Manchester's designated teaching hospitals have neither the resources nor the staff to cope with the increase in students from 300 graduates a year in 1967 to a projected 275 in 1979.

Dr Beswick stresses that reallocation of financial resources will not be enough by itself. "You have to transfer the teaching posts with the money—and this is something we will fight for to the bitter end."

He is impatient with those who say RAWP should be postponed until some golden day in the 1980s when money is gushing into Britain with the North Sea. Experience shows that if recommendations of



An orbital skull table at Guy's Hospital, London. It is one of only five such units in Britain.

London's medical students, through the University of London Union Medical Group, have expressed great concern about RAWP. "The proposal constitutes a leveling down of services, use generalized statistics to quantify regional needs with no serious attempt to take into account the real health needs of urban communities, and assume that the present technical and mechanistic approach to the delivery of health care is the correct one."

RAWP has caused considerable disquiet outside the capital too. For example, Professor Acheson in Southampton is very worried about its practical effects, although his region, Wessex, stands to gain. But there are enthusiastic RAWPists in provincial medical schools and Dr F. B. Beswick, executive dean of Manchester University Medical School, is one of them.

"His main worry is that the 'hands thrown up in horror' in the privileged regions may persuade the Government quietly to 'drop RAWP' especially as London schools 'have the ear of and are much closer than us to the chaps who run the DHSS'."

Dr Beswick calls the North-West a "grossly underprivileged region" with £75m less than its fair share of hospital buildings. "Thanks to the UGC we have one of the most modern medical schools in the world, yet our teaching hospitals are either dilapidated or antiquated. RAWP will not be concentrated on the teaching hospitals of Manchester, and are likely to be spread over many inadequate general hospitals in the North West. However even this would help his students, who spend considerable periods gaining experience in non-teaching hospitals throughout the region, because Manchester's designated teaching hospitals have neither the resources nor the staff to cope with the increase in students from 300 graduates a year in 1967 to a projected 275 in 1979.

Dr Beswick stresses that reallocation of financial resources will not be enough by itself. "You have to transfer the teaching posts with the money—and this is something we will fight for to the bitter end."

He is impatient with those who say RAWP should be postponed until some golden day in the 1980s when money is gushing into Britain with the North Sea. Experience shows that if recommendations of this kind are delayed they get worked down so much that nothing happens in the end.

However, there is an enough common ground between Manchester and London for the University Hospitals Association, which represents teaching hospitals throughout Britain, to be preparing a publicity campaign to draw attention to the threat that present policies pose to medical education as a whole. Much of the impetus behind this comes from the London medical schools, which are anxious not to appear to be acting alone for their own selfish reasons, but they can draw on a lot of sympathy and understanding from the provinces.

There is concern too from hospital doctors not directly involved in teaching. As Mr Tony Grabham, the Kettering surgeon who is chairman of the Central Committee for Hospital Medical Services, said: "All consultants are anxious that the teaching institutions on which the future of medicine depends should not be deprived of resources."

But Mr Grabham's suggestion that some of the "more esoteric research done in teaching hospitals should be sacrificed for the sake of the teaching is firmly rejected in the medical schools.

Few opponents of RAWP have a ready answer when asked how else a fair allocation of resources might be achieved. The normal response is that the whole structure of British medicine must be investigated far more thoroughly before any reallocation scheme is proposed. Professor Norman Morris, deputy vice-chancellor of London University and professor of obstetrics at Charing Cross Hospital Medical School, feels that medical education particularly needs to be looked into. The loud and influential protests that greeted RAWP raised hopes (and fears) that Mr Ennals might be deflected from his path. But the Secretary of State announced just before Christmas that he was going ahead, if slowly.

The four Thames regions will be given a tiny increase in revenue for 1977/78, one-third or one-quarter of one per cent, but Mr Ennals admitted this "really represents an absolute cut in a region's ability to meet the growing demand that arises from demographic change; in some places actual reductions in current services are likely to be unavoidable". The more deprived regions will be allowed real growth of about 3 per cent.

# Ten universities clean up to the tune of around £1m a year



Changes in method have brought savings...

Cleaning costs may not be a major item of a university's budget but nearly £1m a year is jointly being saved by ten universities who decided to change to cheaper methods of cleaning than in 1969-70.

It is one of the more tangible results of the work of the North Eastern Universities Organization and Methods (O and M) Unit, a body which studies and advises on university management and administration and encourages the best possible management practice.

The unit, which is based at York University with a staff of five, has Bradford, Durham, Hull, Leeds, Newcastle, Sheffield, York, Leicester, Loughborough and Nottingham. There are similar regional units for the other universities.

Each pays £2,500 a year for the unit's services, a contribution of 0.045 per cent of the combined total expenditure of the 10.

Although the O and M unit says its first priority is the more effective working of university administration, it is becoming more and more concerned with seeking ways areas. At one university, for instance, a study into the upkeep of 220,000 a year and one on photographic savings led to suggested ways of saving £10,000.

It is not possible to attribute these savings directly to the unit's management committee, for July 1976. The unit can only recommend methods, which the universi-

ties then implement as they wish. But it adds: what can be claimed beyond question is that together, the member universities and their unit have achieved very considerable savings, far in excess of the cost of the unit."

Part of the savings on cleaning units can be attributed to the unit's purchasing group, a voluntary association of the North Eastern universities seeking to make the best use of their combined purchasing power.

Cost comparisons have shown that some universities were paying different prices for the same item from the same supplier, and so by renegotiating prices.

The cost of floor polish, which represents some £5,500 for the central cleaning of the universities in the group, has been renegotiated by the group's coordinating committee at a price between 25 and 45 per cent less than previously paid, and over lavatory paper, paper towels, soap and disinfectants.

The exchange of information between the universities has brought coordinating committee's first report. Members discovered that there was a Department of Environmental standard for institutional bed linen, that one university had one university where a laundry service had been installed at another.

Agreement has now been reached

on stationary. The group has negotiated a price for copying paper which should bring a total saving of about £6,000 a year. The potential value of HMSO as a supplier has been investigated, the report says, but it has no longer been found to be the cheapest source of supply.

It has also discovered, "with a quiet", that some Ministry of Defence contracts, through which the DoE obtains many of its supplies, are not available to universities, something it is to investigate further.

In the 10 years since it was set up the O and M unit has studied a range of topics including office procedures, clerical and secretarial staff, administration in academic and central departments and student unions.

There have been studies of how a registrar used his time, of the part of his staff and other members of the university, and with people from outside.

The unit now envisages its work extending in various ways: expanding its training role by organizing seminars and meetings on topics of public interest (for instance, the implications for universities of current legislation); improving relations with administrations in other universities, particularly in America and Europe; and publicizing its work to other higher education institutions in Britain.

Frances Gibb



Closed-circuit filming of an operation for lecture rooms at the Liverpool Royal Infirmary.



Hermann Bayer and Peter Lawrence compare the subject choices of British and German students

# An emphasis on the practical in the land of idealism

There is a tendency to think that the institutions of industrialized countries are becoming more alike with the passage of time. In the case of education they all have compulsory schooling, high literacy rates, selection and specialization, and a well-developed university sector. But the formal similarity may be misleading.

An example of this is provided by comparing answers to the questions "what are the most popular subjects?" (in terms of enrolments population) and "what do good students study?" in British and German universities.

The quality question can be approached through the Statistical Bulletin of the Universities Central Council on Admissions which includes details of the numbers of students with very good A-level scores admitted to university to read different subjects. The university subjects vary substantially in the proportion which they attract on this basis one can work out a "ranking order" for university subjects.

If we take the "top three" subjects for the four years 1971 to 1974, then mathematics appears four and is top twice, medicine appears three times and is top twice, and history and chemical engineering each appear once.

Among the bottom three subjects for the same period business studies appear three times and is bottom on all three occasions, civil engineering appears three times and is bottom twice, psychology and sociology each appear twice, and electrical and mechanical engineering each once.

Of course, there is nothing absolute about A-level results. The connection between A-level scores and degree performance is contentious, and any connecting mechanisms are complicated. On the other hand students who get A and B grades at A level are the ones who at 18 are considered most able—by

their teachers, the examining authorities, admissions tutors, and by themselves—and what they choose to study at university is of some interest.

The general pattern which emerges from a comparison of 19 subjects over four years is that medicine is "top subject" in terms of very good A-level entrants, and the natural sciences attract a good share of the well-qualified, and so do the humanities.

The university subjects which are in the bottom half of the scale—or worse—are psychology, sociology, economics, business studies, and all the main engineering subjects, except for chemical engineering.

The same type of material is unfortunately not available for Germany; the German equivalent of UCCA was only set up in 1973, and it only keeps records for limited entry (numerous clauses) subjects.

A German based multi-national firm, however, has kept examination records for all its graduate applicants in the degree subjects: engineering, economics, and business economics. These records show that the chemistry graduates have a better performance than the other four sets of graduates, whereas law is top out of these five in Britain.

Perhaps more striking is that for the Germans the mechanical engineers, economists, and business economists, are just as good as the lawyers.

The comparison between Britain and Germany of the proportions of students reading the various subjects is also revealing. Our strengths again are the humanities and the natural sciences. About 13 per cent of all our students were reading English, French, and German in 1974, compared with 5 per cent in Germany. Over 41 per cent read natural science in Britain as against 25 per cent in Germany.

Germany is stronger on engineering subjects; the difference is not great (25 per cent compared with

20 per cent) but German engineers form a larger proportion of the "qualified engineers and scientists" group—the engineers represent half of this group in Germany, and one-third of it in Britain.

The Germans are also strong on law, 20 per cent as opposed to 8 per cent in Britain. But with regard to the letter figures it is important to keep in mind that law studies in Germany do not just lead to private practice, but also to general administration posts in the civil service, and to industrial management.

Thus the German law emphasis is more widely and less traditionally vocational than in Britain. And probably the biggest single difference is in the proportions reading economics and business studies; 7 per cent for Britain, and over 21 per cent for Germany.

The general picture that emerges is a British preference for the theoretical and academic, and a lack of enthusiasm for the technical and commercial subjects. The pattern is reversed in Germany.

The British figures even provide studies in miniature" of the phenomenon. Classics leads the humanities in its share of good A-level performers; mathematics leads the natural sciences; geography usually gets more good students than economics.

The internal contrast should be enough to make us think about priorities. And the German contrast might cause us to query the British rationale: that the universities exist to educate, not to produce job candidates.

Do we, after all, have any good reason to suppose that a German economist is less "educated" than a German geographer, or that the German physicist is culturally superior to the German civil engineer?

Hermann Bayer teaches at the University of Münster, and Peter Lawrence is a senior research fellow at Southampton University.

# When polyferation takes place is the end product polywollydoodle

This polyglossary has been assembled from various contributions to the Brighton Polytechnic News Bulletin. Each word is included to fulfil a specific polytechnic need and has at least some etymological respectability.

**Polystrate**—create a polytechnic. **Polystrate**—enlarge a polytechnic. **Polyphemus**—monstrous, one-eyed, many-sided polytechnic.

**Polycracy**—system of polytechnic government by committees. (Alternative spellings—"polycrassy" "polycracy")

**Polytic**—nervous affliction caused by polycracy. **Polywollydoodle**—1. Graphic result of polycracy; 2. Exhibit at the faculty of art and design.

**Polystrat**—method used in the bursar's department. **Polyquation**—regulation designed to be ignored. **Polylet**—regulation designed not to be ignored.

**Polyphobia**—morbid fear of the polytechnic prevalent at the college of education before the merger. **Polyflage**—CNAA quinquennial report.

**Polycon**—Polytechnic prospectus. **Polydand**—Polytechnic annex (not to be confused with "polydand" "parrot" (xaxivax))

**Polybuff**—minor publicity item beneficial to the polytechnic. **Polygamy**—clandestine behaviour not usually beneficial to the polytechnic.

**Polygenials**—members of the academic board. **Polytarlat**—non-members of the academic board. **Polytatics**—any new but dubious area of study.

**Polywobbles**—actions of the polytechnic constructed with high alumina concrete. **Polylog**—2. Refectory gravy; 2. Member of the department of European studies capable of describing relectory gravy in different languages.

**Polyprimp**—Polytechnic works, alterations and improvements. **Polypede**—hold up development putting one's foot in the way. **Polyfills**—desperate last minute effort to boost student numbers.

**Polystrappa**—Regional advice council. **Polymers**—full-time female members of staff (alternative spelling—"polym/s")

**Polyplexus**—soft underbelly of a polytechnic. **Polycoable**—form new structure from disparate elements.

**Polythos**—characteristic spirit of a polytechnic. **Polynesia**—condition caused by hiccupping at the polytechnic.

**Polyfloss**—trendy courses with the purpose and less potential. **Polyflossy**—substitute for a polytechnic philosophy.

**Polypinge**—unacknowledged adoption of courses running at other polytechnics. **Polygog**—state of amnesia within the polytechnic.

**Polygogue**—self-important member of the polytechnic. **Polyquette**—code of acceptable behaviour within the polytechnic.

**Polyplex**—aimless drift against the prevailing pressure. **Polygomes**—optimistic polytechnic director.

**Polygide**—motion supported by hot air. **Polydoox**—polytechnic health service.

**Polygendle**—polytechnic council. **Polytistics**—incorrect data used as a basis for forward planning. **Polygrope**—induction course.

**Polygrope**—any double swing door of the polytechnic. The half that the normal person would close as an entrance is invariably half designated as an exit. (Ad vice versa)

**Polypruffit**—scratched notice (if outside an examination room—"Calculators out slide rules OK")

Colin Mars

# Keeping track of the communication of research

Some of my research papers find a home in science journals; others are published in journals devoted to the humanities. And then the way I put a paper together differs drastically according to its destination.

Jack Meadows discusses some of the issues to be looked at by the Primary Communications Research Centre at Leicester University

The scientific paper begins with a bold, factual title, immediately followed by a short abstract of the paper's contents. References in the text are made by number, or perhaps, name, and all the bibliographical details are collected together at the end of the paper.

The paper for the humanities journal may have an allusive title with a link to the subject in the middle so that the second part of the title can explain the first part. The abstract may well be absent, and the references often appear at the foot of the page. They are usually further commentary along with the bibliographical data, appearing at intervals there appear those mystic words *op. cit.*, *ibid.*, and so on.

Every time I construct a paper, I wonder why I do it in that particular way. Is it purely a difference in convention, or does it reflect some basic structured difference between disciplines? Are titles more diffuse in the humanities than in science because authors in arts faculties are cavalier with words, whereas scientists are particular?

Or is it because the subject matter of a paper in the humanities is less readily defined in a concise way? Does the absence of abstracts from a humanities journal reflect lack of zeal on the part of editors, or the difficulty of abstracting research topics in that area?

These queries are not simply interesting items for debate; they may also suggest practical limitations on the communication of research. For example, some areas of science may be monitored via a KWIC (Key-word-in-context) index. Such an index works on the assumption that words in the titles of papers match with contents sufficiently well to be used in retrieving relevant papers.

If articles in the humanities have more diffuse titles, then a humanities KWIC index may be ruled out automatically. Similarly, if there are really subjects for which adequate abstracts cannot be written, this denotes the abstracts journal, which is generally one of the commonest methods of monitoring research information.

Questions relating to the communication of research frequently arise in this way from reading forward observations of the actual practice of communication; but they can lead, on the one hand, to a study of the nature of knowledge, and of its transmission, or, on the other, to suggestions for possible practical improvements in the dissemination of research.

Work under both these headings is usually classified, in the jargon, as primary communications research. (A primary communication is directly related to the research information as contrasted with a secondary communication—such as a bibliography—that simply tells you such information exists.)

The great expansion of research activities during the present century has led to a corresponding growth in the amount of research information in circulation. This so-called "information explosion" is generally discussed in the context of science and technology, but its effects can be seen in all research fields.

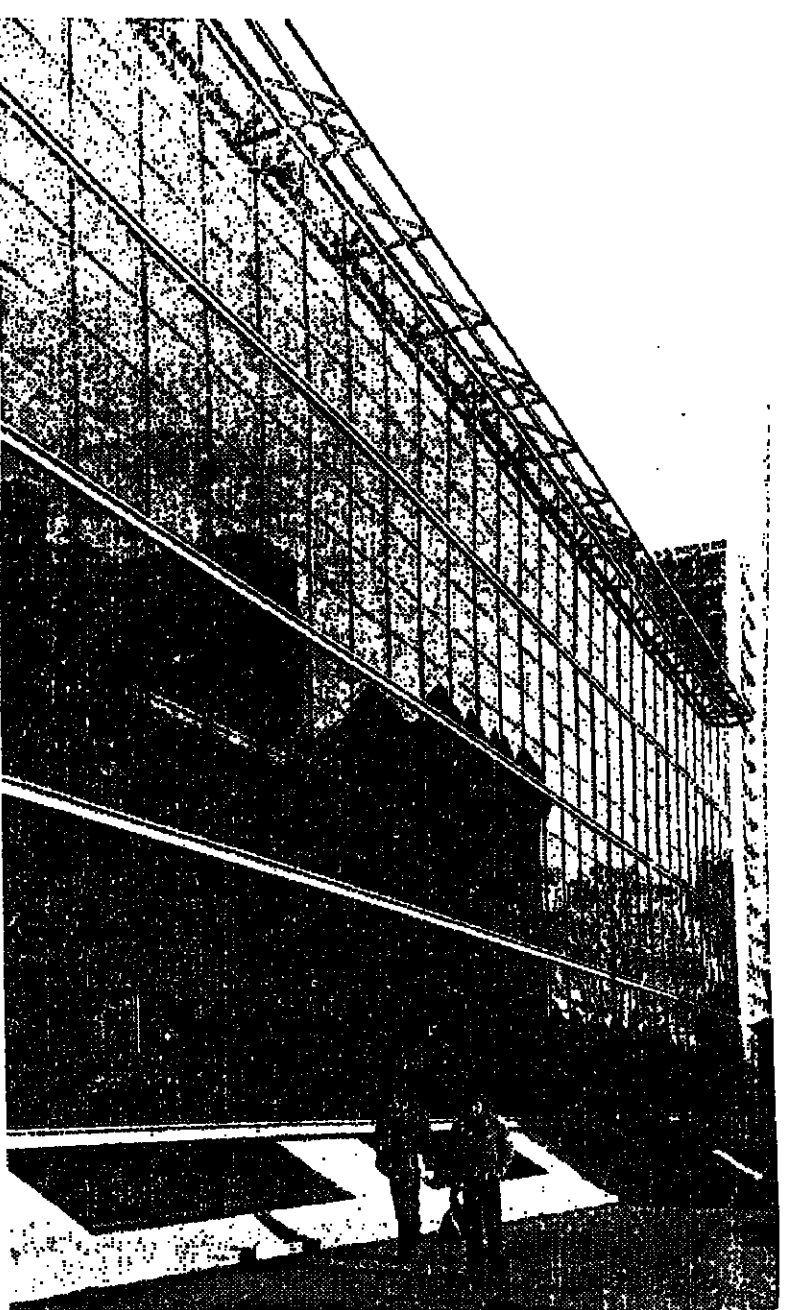
During the 1960s, efforts to cope with the increasing flow of information concentrated especially on the improvement of secondary services. The information was, in effect, coming out anyway, and the problem was how to monitor the flow, and retrieve relevant items.

The financial stringency of recent years has led to a new emphasis on the problems of producing the information in circulation. This is so-called "information explosion" is generally discussed in the context of science and technology, but its effects can be seen in all research fields.

The Standing Conference of University Appointments Services is currently actively involved in trying to improve the employment position of the older student, and it seems likely that this body may act as a useful catalyst in what is clearly a complex field. The answer is not to be found by excluding mature students from higher education.

What can be done to prevent some of the frustration and anger situation? I would make a few suggestions. 1. Universities and polytechnics should provide more effective counselling for mature students before the individual decides to accept the offer of a place. The counselling

The author is director of careers and appointments at Hull University and formerly in personnel management with I.C.I., I.M.I., and Clarks Ltd.



Leicester University's newly-opened library

# Terry Smith discusses some problems experienced by the mature graduate job-hunter

## What about the older graduate workers?

In addition there are around 50,000 working part-time as undergraduates with the Open University, and all of these are "mature".

What evidence there is suggests that the numbers of full-time students will go on rising; research carried out by Peter at Warwick University showed a clear upward trend in its mature student entry and I suspect that a number of perished similar growth.

In addition, a recent TUC document urges the universities to take even more older students. Clearly, mature students still form a minority in the general student body but they are a significant minority and have special problems and needs which, in the main, being neglected.

Some of the major problems faced by the older graduate arise when he or she leaves the university and attempts to obtain work. As a university careers adviser, I meet a number of mature students every year who come to discuss their career aspirations. Many have entered higher education as a route to a career in teaching, and until the recent cutback in teachers, most have been welcomed with open arms.

I can think of many successful examples over recent years—a retired police inspector graduating at 52 who now teaches history in a comprehensive, a former "father of the chapel" in the printing industry who now works with the Workers' Educational Association, the ex-collary filter who is now teaching social studies in a college of further education, the ex-London cab driver who is a university teacher.

No doubt graduates with this sort of background are doing much to enrich the educational system but, as wishes to become a teacher nor should he. Outside teaching, his position is less encouraging, and obtaining suitable and appropriate

work can be a frustrating experience for the mature student. Take, for example, the case of a 35-year-old ex-minor who, after five years of full-time study, graduated with an honours degree, and though he has a manly physique and a coal industry, but he was flatly rejected by the National Coal Board, because "we do not usually fill substantive posts from outside the industry".

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

He has a quite extraordinary emotional attachment to the coal industry, and at the time of graduation was desperately keen to enter it, but he was not to be. He is now working on an oil rig, but he does not usually fill substantive posts from outside the industry.

sometimes—though by no means always—results from a change of employment.

A highly-paid industrial executive would clearly lose money if he entered university and then decided to become a school teacher, but a highly-paid manual worker who also experiences a fall in earnings if he became a teacher, social worker, or if he was to enter some other white collar field.

Additionally, because of family responsibilities, the older graduate may be restricted to a particular geographical location and the ideal job may not be available in that location. Thus the relative immobility of mature graduates may be a problem.

Few older graduates, after three or four years studying in a provincial university town, would be able to afford to move to the job in London; similarly it may be quite impossible for the older woman to move away when she has children in school.

But the major problem relates to the attitude of employers who, because of fairly rigid salary structures, of "sophisticated" management development programmes, or of traditional and unimaginative recruitment policies, are unprepared to consider older people.

The Civil Service, for example, will rarely recruit graduates over 28 for its executive officer entry (which means that the great majority of mature graduates are effectively barred from entry). British Rail has a reluctant to take graduates after mid 20s, and so on.

What can be done to prevent some of the frustration and anger situation? I would make a few suggestions. 1. Universities and polytechnics should provide more effective counselling for mature students before the individual decides to accept the offer of a place. The counselling

offer of a place. The counselling

would not be part of the selection process, but would attempt to outline the problems the person might find as a mature student and would discuss the relationship between the courses of study and post-graduate employment.

2. Attempts should be made to make the public at large more aware of the situation and especially to emphasize that degrees do not automatically lead to improved careers.

3. There should be concerted efforts to change employer attitudes towards older graduates and, in particular, to persuade employers to consider unnecessary top age limits. It would be sensible if the universities, the TUC and the National Union of Students were to launch a national effort in this direction, but the latter bodies seem to have little or no interest in the question.

(4) Since the Open University is almost by definition, made up exclusively of mature students, it should be taking a leading role in creating a change in attitude amongst employers. So far the OU seems unprepared to put any adequate resources into its "careers" activities but it has a vital part to play.

(5) If all else fails, there might be need for "age discrimination" legislation, similar to that which is already proposed for some states in Australia.

The Standing Conference of University Appointments Services is currently actively involved in trying to improve the employment position of the older student, and it seems likely that this body may act as a useful catalyst in what is clearly a complex field. The answer is not to be found by excluding mature students from higher education.

What can be done to prevent some of the frustration and anger situation? I would make a few suggestions. 1. Universities and polytechnics should provide more effective counselling for mature students before the individual decides to accept the offer of a place. The counselling

offer of a place. The counselling

papers attract comment from referees, and the extent to which comments by two different referees on the same paper agree. The practical outcome of this investigation could be not only an informed assessment of current refereeing habits in the United Kingdom, but also, we hope, suggestions for increasing the overall efficiency of the process.

The information that research provides may be of interest to a much wider group than just fellow-workers in the same specialism. It may be required for use by technologists and by administrators, as well as by research workers in other specialisms.

Dissemination in all these categories apparently acquires some of their research information not from the original investigator's report, but from references to it in the mass media. We have therefore begun a study of one aspect of such transmission: the way in which the media provide information on research and development in science and technology.

Media research is almost guaranteed to be controversial, but our entry point to this delicate question of selection of material—has, perhaps surprisingly, not excited too many arguments. The type of query that arises is obvious. In terms of newspaper and numbers of research publications, chemistry is one of the most important branches of science; yet chemistry is reported by the media relatively infrequently.

Why is this? Is it because chemistry has a particularly convoluted jargon and complex conceptual base making the subject utterly opaque to non-chemists? Or is it because chemists are not making significant discoveries nowadays? Or because chemistry cannot be presented in exciting visual terms? Whatever answers to these questions emerge, selectivity clearly depends partly on the nature of the research area, media themselves.

There are a number of practical consequences. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

Another consequence relates to the involvement of the general public in discussions of how scientific research should be conducted. One is that the nature of the media may play a small part in determining the careers of future scientists, since entry into the profession may be affected by the amount of exposure given to each subject by the media.

dissemination of research information. The scope of primary communications studies is therefore large, and is further increased by differences between the communication patterns of different research fields, and changes in the process of communication with time. Physics may use different forms of communication from philosophy, and physics in the 1980s may be disseminated differently from physics in the 1960s.

When articles should we therefore use for selecting topics for investigation? My own preference is for "middle-range" studies—not those that apply in a totally *ad hoc* way to a single institution, nor those designed to produce a comprehensive theory of primary communications.

Rather, the present need seems to be for studies that examine the effects on the communication network of particular groups (for example, publishers) or of particular research areas (for example, humanities).

Moreover, these studies should contain promise of providing useful guidance to practitioners either immediately, or at least in the near future. The implications of this position can be illustrated by some of the projects that are currently under way at Leicester.

The peer-review system has met with a good deal of criticism in recent years for its alleged defects. In the primary communications field, peer review is represented most obviously by the use of referees to assess research papers submitted to journals. A common question is whether the system is open to criticism? Many British editors regard the referees as the key to the maintenance of quality control in research; they feel that a good deal of criticism of the present system would affect the integrity of the entire research effort. On the other hand, refereeing certainly takes time and money, and is not always as efficient as is ideally supposed.

The fundamental question ought surely to be whether the energy involved in the exercise is warranted by the results it produces. For example, one reasonable defence of refereeing is that it improves the standard of research papers. But, if each research paper has only a handful of readers—as has often been claimed—is this improvement worth making?

Refereeing seems to fit the criteria I outlined previously: it is an important element in all areas of research and affects the communication interests of different groups—authors, editors, publishers and readers. The centre has, therefore, begun a major study of the efficacy of refereeing.

We have been looking, for example, at what aspects of research

find out how much research is communicated by this channel, and—if it appears to be a significant amount—how better to inform the research community of its existence.

One obvious question about do-it-yourself publishing is why people decide to publish that way in the first place. There is certainly no single motive at work, but, if do-it-yourself publishing is on the increase, one reason could be that authors are finding it increasingly difficult to publish their research through the normal channels.

Commercial publishers are evidently still interested in producing research monographs, but it is sometimes said in the academic world that research workers in some fields are experiencing difficulty in having their work published.

Primary communications research involves links of many kinds, but one, perhaps, of special interest is an area in which academic and commercial activities naturally overlap and interact. It is therefore an area in which the alleged conflict of interests between these two worlds is replaced by interdependence.

This joint involvement is significant even in purely financial terms; the export value of all the scholarly journals and monographs produced in the United Kingdom is far from negligible. From this viewpoint, academic institutions are important units of production—surely something worthy of further investigation by the institutions themselves.

The author is professor of astronomy at Leicester University and director of the Primary Communications Research Centre.

The author is professor of astronomy at Leicester University and director of the Primary Communications Research Centre.

The author is professor of astronomy at Leicester University and director of the Primary Communications Research Centre.

20,000 at undergraduate level.



# LETTERS TO THE EDITOR

## Frederic Joliot-Curie

Sir,—I have only just seen the review of Maurice Goldsmith's biography of Frederic Joliot-Curie by Spencer R. Weart (*THES*, September 24). Your reviewer, in attempting to prove the unreliability of the book, reveals only his own nit-picking attitude and scientific illiteracy.

He should re-read more carefully the paragraphs on pages 66 to 68 which he criticizes most severely and make some attempt to understand them. He would then notice that it is nowhere stated that Fermi's letter to Joliot congratulating him on the award of the Nobel prize for physics in 1938 was written in February of that year. It is indeed obvious from the context that the author is referring to February 1939.

Further, if the reviewer had read these pages with the care expected of one who presumes to criticize so confidently, he would have noted that Fermi's work on the production of artificial radioactivity of uranium was actually carried out between 1935-1937. He would further have noted that Fermi was wrong in the interpretation of his results on uranium. This was only a very small part of the monumental work covering many parts of nuclear physics, including especially the use of slow neutrons for the prolific production of artificial radioactivity in very many elements, for which Fermi was awarded the Nobel prize.

One can perhaps gauge from this the value of the reviewer's other criticisms and especially his unsubstantiated remark that "similar errors lurk in every corner". Surely the *THES* expects higher and more objective standards than this in its reviewers!

Yours faithfully,  
E. H. S. BURHOP,  
Professor of Physics,  
University College, London.

## WEA and Mansbridge

Sir,—Professor Bernard Jennings' view of Albert Mansbridge, founder of the Workers' Educational Association, was rather one-sided (*THES*, December 17). What was shown was that Mansbridge was also a man of profoundly conservative temper. For instance, in his history of the Cooperative Building Society—with which he was long associated—Mansbridge draws the distinction

Sir,—Since Professor Burhop does not address the general criticisms raised in my review, with regret I must help him pick nits.

He attends only to the following sentence from my review: "Fermi's letter to Joliot could not have been written in February, 1938, about his 1938 Nobel prize and the disintegration of uranium, when the one was not received nor the other discovered until the following December."

Fermi's letter is in the excellent archives of the Radium Institute in Paris, box F28, where I saw it a few years ago. He wrote it from Columbia University, where he arrived in January 1939, and refers to his Nobel prize, which was unquestionably written in 1939.

Yet after Goldsmith describes the letter in his book he immediately goes on to say that "Shortly after" receiving it "Joliot met Hahn at an international congress" which was in fact the Tenth International Congress of Chemistry held May, 1938. The book follows with an account of the discovery of fission, published January 6, 1939 (Not December, 1938 as Goldsmith writes. Errors do lurk in every corner of the book, at least five on pp 67-68 alone.) So the book's context denies that the letter was written in February, 1939. Goldsmith quotes Fermi's mention in his letter of current work on "the catastrophic disintegration of uranium". Of course this means activity work on fission. It obviously does not refer to the artificial radioactivity work of 1935-1937, so Professor Burhop's remark is entirely irrelevant.

The kindest thing I can say about Goldsmith's garbled pages is that they will mislead a careless reader as to what "disintegration" Fermi was writing about. The kindest thing I can say about Professor Burhop is that he has been misled on precisely this point.

Faithfully yours,  
SPENCER R. WEART,  
Director, Center for History of Physics,  
American Institute of Physics, NY.

between the educated and the uneducated simply in terms of knowing or not knowing one's station in life, and being or not being grateful for one's lot. That appears to me to be the "clearly defined social purpose" of the WEA in a much different light.

Yours faithfully,  
ANDREW McCULLOCH,  
Anglesia Road,  
Wivenhoe,  
Colchester, Essex.

## Applied science

Sir,—You ask "what is meant precisely by applied science?" I suggest that it does not actually mean anything, and that it is in fact a simple euphemism for the embarrassing word "engineering". Its existence allows the Government and the editor of *The THES* to misunderstand the real problems of engineering education and the reasons for the decline of British engineering.

The chasm between engineering and science (pure or applied) is just as great as the famous two-cultures gap between science and the humanities. But engineers are mute and the existence of this great divide is never pointed out. Engineering is *Not* science, it has an extra creative dimension which does not exist within the concept of science. We should be pointing this out, not blurring the distinction by lumping engineering and applied science together.

The SISTERS could be colleges of engineering, and by sooting them up as such the Government could be encouraging engineering. They may be somewhat one-dimensional but it is time this particular dimension had some emphasis—and anyway have you any idea just how one-dimensional engineering education is today in the majority of British universities? Why not one trial SISTER to start with?—we could take the technical university in (say) Munich as a model and make over (say) the University of Surrey in its likeness. We should just about be able to afford that.

Yours faithfully,  
IAN SMALLY,  
50 Westwood Lane,  
Leeds LS16 5NP.

## Four-colour theorem

Sir,—Your report (*THES*, December 24) on Mr G. Spencer-Brown's attempted proof of the four-colour theorem (that the countries of every map can be coloured with only four colours) contains some inaccuracies. In particular, your correspondent's statement that this is the first full proof of the theorem is certainly incorrect.

On July 20, the American Mathematical Society announced that Professors K. Appel and W. Haken

## The Scrope Davies papers

Sir,—The prominence you gave to the so-called "moral right" of King's College, Cambridge, to the Scrope Davies papers was astonishing.

Your article (*THES*, December 31) gave the impression that the important element in the relationship between Davies and Byron was their Cambridge friendship. This was only a beginning, however, which developed later into an association of wider significance, in London.

In 1818 a group of friends including Sir Francis Burdett, John Cuthbert, Douglas Kinnaird and Scrope Davies formed a dining club which met every fortnight while Burdett was sitting at the Piazza Coffee House, Covent Garden. All these men were among the most intimate friends of Byron, who wrote from Italy to ask to be elected a member in *absentia*. The club was called the Rota, and it provided two Reform members for Westminster—Burdett and Hobhouse—and a third Reform candidate, Kinnaird.

There is thus reason to suppose that Cobbe, fulfilling his duty as editor of the *Political Register* in nearby Catherine Street against the "Junio" which was ruining the Reformers' political machine in Westminster (largely on the south side of the Strand, at the top of Arundel Street), was right in believing that Burdett had this "Junio" under his thumb. We may deduce that the Rota was the "moral right" in the Davies case by which he drove this inner wheel.

The newly discovered Davies papers reported to contain an interesting letter relating to Napoleon's exile on Saint Helena, Davies's brother having been sailor on the Northumberland in 1815. It is noteworthy that on one occasion on Saint Helena, when he was discussing what he would have done if he had conquered Britain,

of the University of Illinois had successfully completed a proof of the four-colour theorem. This proof was announced in *The THES* on July 23, and has been taken up in a 170-page booklet which has been available for several months; contrary to popular belief, their proof involved a very subtle use of well-known techniques, and a substantial amount of computer time used in the proof was spent in developing an algorithm which was then applied by hand.

Speaking for myself, I was considerably more impressed by Professor Appel's series of lectures in

## Applied science

Napoleon said that one of his pets would have been a Francis Burdett to draw up a constitution.

Byron was famous for his long and another who became William Hazlitt, who covers Covent Garden and Drury Lane theatres from his home at neighbouring York Street, house belonged to Jeremy Bentham's association with the hollid-ages figures in Westminster Reform men Francis Place, is described in the biography of Place by Wallas of the LSE. At it of the formation of the Rota, Davies and Kinnaird returned politics in Westminster. The management sub-committee, been.

It is plain, therefore, the member of the Rota, Date close to the centre of a free intellectual and political life, though extremely far from its ultimate significance, was particular in its geographical situation. This was because, in the nineteenth century, the G Westminster was one of the places where anything appropriate elections could be returned politics in Westminster. The management sub-committee, been.

He made clear at a press conference to mark his appointment that cutting departmental red tape and introducing order will be his priorities. The department is said to issue ten times as many "regulations" a year than the number of laws passed by Congress.

Like his predecessor, Dr David Mathews, Mr Callifano is well aware both of the urgent need for reform of the difficulties. The department, with a budget of \$140,000 a year, is the biggest spender of the federal government departments. Last summer Mr Callifano said that the next President would find it difficult to impose his will on the many contending interests which have stakes in various programmes.

"The departments and agencies of the federal executive are a minefield of bureaucratic interests, and of their jurisdictional turf" he said. Each programme had its own constituency within the Department as well as in Congress, and "they will be poised to oppose any change in the status quo."

If anyone is able to streamline the department, it is likely to be Mr Callifano. In the Johnson days he made his reputation for getting things done: putting ideas into practice, pulling dissenting interests together, negotiating aggressively and negotiating hard. He drafted some of the important measures in President Johnson's "Great Society" programme, such as the Safe Streets Act and the Model Cities Pro-



**NORTH AMERICAN NEWS**  
MICHAEL BINYON reports from Washington  
The Times Higher Education Supplement (London) Room 541 National Press Building Washington DC  
Tel.: (202) 638 6765

## 'Mr Fix-it' aims for academic excellence

America's new Secretary of Health, Education and Welfare is Joseph Califano, a tough, 45-year-old lawyer who was formerly chief domestic aide to President Johnson.

Ironically, as head of the sprawling bureaucracy, Mr Califano will have to reorganize many of the agencies he helped to set up in the 1960s.

He made clear at a press conference to mark his appointment that cutting departmental red tape and introducing order will be his priorities. The department is said to issue ten times as many "regulations" a year than the number of laws passed by Congress.

Like his predecessor, Dr David Mathews, Mr Callifano is well aware both of the urgent need for reform of the difficulties. The department, with a budget of \$140,000 a year, is the biggest spender of the federal government departments. Last summer Mr Callifano said that the next President would find it difficult to impose his will on the many contending interests which have stakes in various programmes.

"The departments and agencies of the federal executive are a minefield of bureaucratic interests, and of their jurisdictional turf" he said. Each programme had its own constituency within the Department as well as in Congress, and "they will be poised to oppose any change in the status quo."

If anyone is able to streamline the department, it is likely to be Mr Callifano. In the Johnson days he made his reputation for getting things done: putting ideas into practice, pulling dissenting interests together, negotiating aggressively and negotiating hard. He drafted some of the important measures in President Johnson's "Great Society" programme, such as the Safe Streets Act and the Model Cities Pro-



Man in the President's eye: Mr Joseph Califano.

gramme. Former colleagues say that he was energetic, skilful and witty, but also a man of principle.

Since 1963, Mr Callifano has been a lawyer in Washington. For two and a half years he was Counsel to the Democratic Party, and early last year he prepared a number of papers on the platform of the American family—a subject about which Mr Califano will hear what was called at the press conference "The People's Department", which means that any other deal with the day-to-day lives of families.

In education, Mr Callifano's priority will be to maintain academic excellence. He said he would try to "bring a measure of excellence" back to the education system, and that the public schools that were available, that my mother taught in for 35 years in Brooklyn, are the kind of public schools once again available to the kind of people living in the neighbourhoods I came from."

## Carter heralds 'new era' for colleges

Much is expected of President Carter's new Administration by the world of education. Although it is recognized that the new President has many more immediate concerns than education, his inauguration is still regarded as the beginning of a new era for schools and colleges.

Already there has been no lack of advice. "The Government's first duty is to disavow publicly the past eight years' federal scenario of exploiting public discontent in education rather than dispelling it," said a leading article in *The New York Times* recently. "The Government needs again to support successful old programmes and promising new ones rather than rationalize its withdrawal with the argument that 'nothing really works'."

Support of education offered a special opportunity for a new Administration which wants to prove its concern for people, the paper said. Lack of concern characteristic of the Nixon and Ford governments, "has seriously infected the population at large". A rash of school closures due to lack of funds indicated education's low place on the national agenda. "Surely this country is not so destitute that it cannot afford to keep the schools open."

The *New York Times* saw three main priorities for the new government:

- Restoring the Johnson Administration's commitment to the education of the disadvantaged. Deliberate efforts to discredit all compulsory education had caused a retreat from sound social goals as well as from sound pedagogy.
- Reaffirming a national commitment to access to higher education. The recession and steep rises in tuition rates had begun to restrict access to a growing segment of the middle income class. "The Government must reverse this trend by making students more grants and subsidizing institutions."
- Putting an end to higher education's identity crisis. The Government should use universities as a major resource in tackling economic, social and technological problems. This would help to reverse the trend of "brain drain" to the private sector.

The crisis in the schools also discouraged distinguished teachers from accepting appointments in New York, as they were worried about the education of their children. In the same way the decline in public safety in the city had hit universities. Parents were reluctant to send their children to study where their safety seemed in jeopardy. Colleges had to pay more

## Bankruptcy takes toll of intellectual life, President of New York University says

## City in crisis: fabric and standards both declining

A grim picture of the toll New York's bankruptcy has taken on the city's universities and intellectual life has been painted in a conference on the city's intellectual future by Dr John Sawhill, President of New York University.

The 33 independent colleges and universities in New York, with an annual budget of \$250m, have been caught in a cost-income squeeze for the past 10 years, he said. This had become much more acute with the deterioration of the city itself. The outlook was even worse.

There were four root causes, First was the slow-down in the birthrate, which left colleges with extra room and heavy fixed costs. There would be a steeper decline in the number of traditional college-age students in the 1980s.

This second was the decline in federal support for research and the third was the combined effect of inflation and the recession. It was hard for universities to contain rising costs, and hard to cut back on a much larger scale than the placement of college graduates had reduced the perceived economic advantage of a degree and led to a flight from traditional liberal arts. There were four root causes, First was the slow-down in the birthrate, which left colleges with extra room and heavy fixed costs. There would be a steeper decline in the number of traditional college-age students in the 1980s.

The final cause was the widening gap between the public and private universities and that charged by private institutions: in New York the difference was now about \$2,000.

The public sector—the City University of New York—was now, Dr Sawhill said, in "obvious trauma". In the private sector several colleges had already closed, New York University had been forced to sell a campus and other colleges were trying to meet their needs by closing down operating deficits.

On top of this, the city's financial crisis had added special problems, one of the greatest was the condition of the schools.

This affected universities in two ways. It would be increasingly difficult to maintain academic standards. The pool of qualified entrants would fall as the number of leavers from New York schools fell from 71,000 in 1975 to about 43,000 in the early 1980s, and only those universities that could maintain quality commensurate with the tuition fees they charged would survive.

The crisis in the schools also discouraged distinguished teachers from accepting appointments in New York, as they were worried about the education of their children. In the same way the decline in public safety in the city had hit universities. Parents were reluctant to send their children to study where their safety seemed in jeopardy. Colleges had to pay more

for protection and security. Other handicaps included the high cost of energy, the deteriorating public transport—especially discouraging to those attending evening classes, the decay of the outer boroughs, the flight of the middle-classes and the decline in the quality of life.

But out of all this, Dr Sawhill saw a chance for universities to play a "catalytic role in the reintegration of our cultural and intellectual life". He said the new austerity might at last produce cohesion in higher education, and integration between public and private institutions. He said: "Consortia should be created to teach disciplines where student demand cannot sustain individual programmes economically. Programmes that were redundant or that fell to meet generally agreed standards of quality must be weeded out, especially at the costly and specialized graduate level. There should be cooperative systems for providing expensive library services on a much larger scale than the pilot efforts undertaken to date."

The conference also heard a paper by Mr Jason Epstein, editor-in-chief of Random House Publishers, who said that New York was no longer the intellectual centre of the United States, nor was it the preoccupation for writers that it once was.

But though the literary culture and intellectual class, essential for the sustenance of the publishing industry, was now quiescent, it did not mean that New York's publishing industry was in immediate danger. The city was still the national centre for book and magazine publishing.

If New York were to vanish tomorrow, much of the publishing industry would probably vanish with it. It is most unlikely that the industry could be reconstituted elsewhere and flourish in anything like its present form, Mr Epstein said.

The conference is an important attempt to take stock not just of higher education but of the entire spectrum of intellectual activity in New York, a city which is increasingly bracketed with England as an example of the havoc fiscal irresponsibility has wrought.

But the underlying issue which many Americans do not acknowledge is that New York's days as America's intellectual capital are probably passing, never to return. The city has no longer an essential purpose: the media are moving to the West Coast, industry is fleeing high taxes, the population is moving south and even the financial institutions are increasingly dependent on the government in Washington.

# NOTICE BOARD

**Forthcoming events**

"Labour Society and Politics in the United States and the United Kingdom" a short course to be held by the American Studies Resources Centre of the Polytechnic of Central London this afternoon (January 14). Fee £2, students half-price. Further details from the Short Course Unit, PCL, 309 Regent Street, London W1.

"The Value of Investment Properties" two days of "Janus", the University of Reading's public lecture in estate management by Mr Philip White, will be held on February 22 at 6 pm in the Palmer building of the university. Admission free.

A two-day residential conference on the varied aspects of William Morris's literary, artistic and political work will be held at Loughborough University on March 25-26. The conference is intended for those engaged in research on Morris's work, and all interested in art and the community and society. Full details from the Centre for Extension Studies, Loughborough University of Technology.

"Some Thoughts on the educational system and mathematics teaching" by Dr Edwin Kay, director of the Council for National Academic Awards, to be delivered on April 13-16 at the annual conference of the Mathematical Association.

"Plastics Antiques", an exhibition of plastic consumer products from the 1950s to the 1980s will be held at the Polytechnic of Wolverhampton Faculty of Art and Design until January 20.

**Course news**

Three courses on aspects of terotechnology are to be held at Loughborough University as follows:

- Design and Terotechnology in February
- Life-Cycle Costing and Terotechnology in April
- Communication and Terotechnology in April

Details from the Short Course Unit, PCL, 309 Regent Street, London W1.

The managers and accountants concerned with life-cycle management of physical assets and lecturers teaching aspects of terotechnology and course notes, also studies, Loughborough University, Loughborough, Leicestershire LE11 3TU.

The Universities of Surrey and Kent are to jointly run a course on teaching

**Recent publications**

New editions of the *Directory of Summer Jobs in Britain* and the *Directory of Summer Jobs Abroad*, published annually by Vacation Work Publications, will be available from the publishers and bookshops at £1.75 each from the middle of January. Vacation Work Publications are also distributing the *United States at £3*. In spite of the unemployment situation, there has been an increase in the number of entries in each book. Vacation Work has also revised and expanded the *Directory of Jobs and Careers Abroad* (£4.95) edited by Roger Brown, which lists permanent careers abroad for people in all

walks of life. Vacation Work Publications: 9 Park End Street, Oxford.

*Individual Study in Undergraduate Science*, Small Group Teaching in Undergraduate Science, Practical Work in Undergraduate Science, and Students' Reactions to Undergraduate Science are to be published in May by Heinemann Educational Books. They are the result of work over the past four years by H.E.L.P., the higher education research project (physics), sponsored by the British Science Education Foundation. Inquiries to Jon Ogburn, Centre for Science Education, Bridges Place, London SW6.

*Self Instruction Through Results—The Keller Plan*, by Peter J. Stoward, University of Dundee, the ASME Medical Education Booklet No. 7 (available from the Association for the Study of Medical Education, 1500 Park Road, Dundee DD1 4EA. ASME members: 50p, orders over 10 copies 40p. Non-members: 60p, orders over 10 copies 50p).

The National Technical Information Service of the United States Department of Commerce has announced the publication of *Energy Fact Book—1976*, a 432-page compilation of up-to-date information which summarizes the present United States energy situation. It includes consideration of energy resources and management, geophysical, wind and solar resources. Available from NTIS (Microfilm), Hampton House, High Street, Alton, Hampshire GU34 1EF, £10.45.

**Honorary degrees**

Leicester

The following have been awarded honorary degrees:

- Dr Peter R. F. Hall, CBE, of the National Institute for Research in Dementia; Professor of English Literature, University of East Anglia.
- Sir Mark Henig, Chairman of the English Tourist Board.
- Professor Sir Frederick Stewart, Regius Professor of Greek, University of Edinburgh.
- Dr David V. Willcocks, Director of the Royal College of Music.
- Mr Jack Otter, ornithologist, author.

**Open University programmes**

January 15 to 21

Sunday January 16

- 16.00 *Reading and Training in French* (2)
- 16.30 *Reading and Training in French* (3)
- 16.50 *Open Forum—The Open University*

Monday January 17

- 16.00 *Open Forum—The Open University* (2)
- 16.30 *Open Forum—The Open University* (3)
- 16.50 *Open Forum—The Open University*

Tuesday January 18

- 16.00 *Open Forum—The Open University* (2)
- 16.30 *Open Forum—The Open University* (3)
- 16.50 *Open Forum—The Open University*

Wednesday January 19

- 16.00 *Open Forum—The Open University* (2)
- 16.30 *Open Forum—The Open University* (3)
- 16.50 *Open Forum—The Open University*

Thursday January 20

- 16.00 *Open Forum—The Open University* (2)
- 16.30 *Open Forum—The Open University* (3)
- 16.50 *Open Forum—The Open University*

Friday January 21

- 16.00 *Open Forum—The Open University* (2)
- 16.30 *Open Forum—The Open University* (3)
- 16.50 *Open Forum—The Open University*

**Noticeboard is compiled by Patricia Santinelli and Pauline Gamble**

## The case for a separate D of E

Proposals for a separate Department of Education have been around for a long time. But when Jimmy Carter, twice during his election campaign, promised to create a Secretary for Education with Cabinet rank, the question became a hot political issue.

With significant timing, a detailed report commissioned by the American Council on Education last May has now unequivocally proposed a separate Department. It says that this would clarify the federal role in education; pull together many separate agencies and programmes dealing with education; improve the poor relations between the existing Department of Health, Education and Welfare and the states; secure better resources for education; and attract a person of top calibre to deal with education's increasingly complicated problems.

The new Cabinet-level department should be created by special legislation passed by Congress on the recommendation of the President, not simply by reorganization, the reports says. It should be of relatively simple design, and extra responsibilities could be added later.

The report, by Mr Rufus Wilder, a senior fellow at the Woodrow Wilson School, Princeton University, and former Director of Administration of the Department of Health, Education and Welfare, is not the official policy of the American Council on Education, but it clearly carries a good deal of weight. It has been drawn up in consultation with some of America's leading educationists.

need for simplification and leadership in Washington. But the trouble with the present system is that education is only a very small component among the two giant spenders of health and welfare, and educational issues are now of low priority.

A separate Cabinet member would be better able to fight for money. He or she should be a person with a broad perspective, not beholden to any particular group, the report says, and should coordinate the work of agencies, assume responsibility for them, but not attempt to interfere in their day-to-day working.

Mr Miles says the new Department should include: the educational division of HEW (the Office of Education, the National Institute of Education, the National Centre for Educational Statistics, and the Fund for the Improvement of Post-secondary Education); the education directorate of the National Science Foundation; the National Endowment for the Arts and Humanities; the school lunch and breakfast programmes, most of HEW's Office of Civil Rights, programmes from HEW's Office of Child Development, and various institutions, mainly in Washington, that are run directly by HEW.

Altogether, this "would create a Department with a \$10,000m a year budget—larger than four other existing Departments.

The question now is whether Mr Carter will endorse this report, which is clear, persuasive and authoritative, and so how soon. The creation of a separate Department of Education is a more urgent task.

Relationships between the federal government and the state systems of education are now poor. In the 1960s hundreds of new federal programmes were created with little realization of their cumulative and uncoordinated effect. Washington contributes only 8 per cent of school budgets, but is seen as behaving as though it were the senior partner in the enterprise. State and local officials feel they have not been properly consulted over programmes that they have to run, and Congress has created delicate controls without understanding the difficulties of administration.

There is therefore an urgent

need for simplification and leadership in Washington. But the trouble with the present system is that education is only a very small component among the two giant spenders of health and welfare, and educational issues are now of low priority.

A separate Cabinet member would be better able to fight for money. He or she should be a person with a broad perspective, not beholden to any particular group, the report says, and should coordinate the work of agencies, assume responsibility for them, but not attempt to interfere in their day-to-day working.

Mr Miles says the new Department should include: the educational division of HEW (the Office of Education, the National Institute of Education, the National Centre for Educational Statistics, and the Fund for the Improvement of Post-secondary Education); the education directorate of the National Science Foundation; the National Endowment for the Arts and Humanities; the school lunch and breakfast programmes, most of HEW's Office of Civil Rights, programmes from HEW's Office of Child Development, and various institutions, mainly in Washington, that are run directly by HEW.

Altogether, this "would create a Department with a \$10,000m a year budget—larger than four other existing Departments.

The question now is whether Mr Carter will endorse this report, which is clear, persuasive and authoritative, and so how soon. The creation of a separate Department of Education is a more urgent task.

## Education—work link gets boost

The United States Department of Labour has awarded a contract of \$365,000 to the American Association of Community and Junior Colleges to develop community education work councils. These would coordinate the work of local education and service agencies, business and industry, trade unions and the government.

The money would be used for pilot projects at five selected community colleges.

## What makes top teachers the tops?

A professor of educational administration at the University of Texas is looking for the 60 best high school principals in America. Who he finds are going to find out what makes them so good.

Dr Kenneth McIntyre's research is part of a nationwide study of school principals and superintendents, sponsored by the National Association of Secondary School Principals with support from the Rockefeller Family Fund.



Israel

# Survival the aim as campuses learn to live with less

### Retrenchment has followed Israel's great university building boom. David Walker reports

For two decades Israel was the promised academic land. Small pre-war colleges in Jerusalem and Haifa were expanded into world-famous institutions: the Hebrew University and the Technion. Magnificent new buildings, libraries and laboratories adorned the campuses and new foundations grew quickly into Hifa University and the University of the Negev in the desert town of Beerseba.

Student numbers multiplied 25 times between the early 1950s and the early 1970s. There were subsidies abroad for staff, funds for wide-ranging academic research and a staff-student ratio often as low as one to three. Professors from the Jewish communities of Western Europe and North America gave lavishly—a host of student halls of residence, campus gardens and stately bear their names.

The special place enjoyed by higher learning in the Jewish tradition took on flesh in the creation of a powerful professoriate. These were the years when politicians appeared to equate the development of the state of Israel with vast expansion of its educational system. Finding resources to place nearly 90,000 students in various forms of post-secondary education and training out of a population of less than three million. David Ben-Gurion and Golda Meir put the universities at the heart of the country's scientific research effort.

But since 1973 there has been a chill in the air. The Yom Kippur war was a watershed, though by no means all of the changes now being pressed on the universities stem from it. The economy was badly strained there were sharp cuts in government aid to higher education. There was a hiccup in the flow of funds from overseas. The cold war set in—literally—as even the prestigious Hebrew University is being forced during the winter to turn its heating down to save money.

Discontent has arisen in other areas, too. There have been quarrels over tenure resulting in a threatened strike by academic staff last year. The need to keep a certain proportion of high-level academic jobs open for new immigrants at a time when junior staff are clamouring for tenure has led to resentment. Voices have been heard in press and parliament condemning university wealth with increasing provision in primary schools. The universities' concern for standards was seen to have effectively excluded the "oriental" Jewish population of Asian and African origin who, while forming half the population, hold barely an eighth of university places.

For academic staff life has taken on a dark side—again literally—as more and more have resorted to evening and part-time jobs to supplement salaries that have fallen well behind Israel's soaring prices. In the past few years the real value of the government grant to the universities for recurrent spending has dropped by about a third. Last year saw a large increase in student tuition fees. Capital programmes have been virtually halted and the universities are standing by idly because there is no money to buy research equipment.

Keenly aware of the pressures are the academics of the new universities at Haifa and Beerseba and in response they are beginning to develop theories of regionalism and the integration of their universities into local education and society. All the universities emphasize their service to the country. At the Technion, for example, there is pride in the contribution of academic engineers to the war effort. In his report for 1975 the Technion's president, Mr Amos Horev, himself a former army general, spoke of his institution being in the front line of the fight for national survival.

None the less, it is a survival taking stock in Israel's universities

—and within the Council for Higher Education and the Ministry of Education. The rector of Tel-Aviv University says, and many agree, that the Yom Kippur war has had the salutary effect of posing questions about the expansion of higher education. Did it go too far and too fast? What is the future of the universities now in relation to the rest of post-secondary education? Does the very internationalism of the outlook that has given Israel institutions of world standing also have disguised costs? Was it right to follow the European model and expand higher education in universities as opposed to the Russian model of specialized schools and colleges "without pretension"?

One of the most obvious answers to such questions came in 1974 when a planning and grants committee was set up to function with the six universities and the "big science" Weizmann Institute like a British University Grants Committee—the admired example of which figured large in the minds of Israeli educationalists. The committee's chairman, like the majority of its members an academic of standing, is Professor Nathan Rotenstreich, a philosopher on leave from the Hebrew University.

The way things have worked out during the short life of this Israel's first exercise in central planning of higher education has been, says Professor Rotenstreich, "to make it easier for the government to cut grants through an intermediary body. But we have taken a strong view against the government on some questions. The universities agreed an overriding body was best placed to take such a stance and they accept we are not spokesmen for or mouthpieces of government."

Projects for academic development in the universities now should go to the planning committee to be studied for their financial implications. For example, a project from Haifa University for the development of kibbutz studies would be approved, provided money could be found from independent sources like, say, the kibbutz movement itself.

Another aim of the committee is to prevent budget deficits, to encourage efficiency and economy and inter-university cooperation so as to prevent unnecessary duplication of funds available. "That goal is still some way off. The committee's staff has a hard time collecting even the rudiments of statistics from the universities and is nowhere near making cost comparisons between institutions. There is, however, undeniably a consensus within the universities on the need for central planning."

There is also general agreement that expansion in the 1960s and early 1970s was overheated. Why, it is asked, should there be two major institutions cheek by jowl on the slopes of Mount Carmel in Haifa. The building boom has left much of the universities' plans greatly underused. For the Hebrew University, founded nearly a quarter of a century before the state of Israel itself, the issues are clear. The rector, Professor Eldon Camp, a chemist, puts his view bluntly. "Too many universities were opened in Israel. The Technion, the Hebrew University and Bar-Ilan (the religious university in Tel Aviv) could have accommodated it all. The pressure for expansion came from politicians, hospital doctors wanting to become professors, from the Sickness Insurance Fund and the public corporations."

Like the British, the Israelis have found that the rubric of academic prestige is seamless. Outside the universities various teachers' colleges and vocational institutions began to aspire to academic respectability. In the past few years, the Council for Higher Education, the body to which the government has delegated various tasks such as recognition of academic degrees and the provision of advice on education and research, has faced the problem of ambitious colleges such as the Bezalel Academy of Arts and Design in Jerusalem.

Should it allow them to grant degrees? The alternative is to attempt to link the colleges to the universities and rely on them for academic accreditation of courses. Mr Dan Ronen, a senior official in the Education Ministry, predicts that Haifa, Beerseba and Tel Aviv Universities are going to have to become "comprehensive" between now and the end of the century by absorbing the community and vocational colleges.

Planning the output of the universities in the light of national strategic need would be difficult because the machinery does not exist. Moreover, from the university side the balance is seen as just about right. The Technion, said to play MIT to the Hebrew University's Harvard, boasts of the numbers and quality of its technologists and their broad role in the development of the state. Mr Horev said recently: "It is not enough to have the manpower which implements development policy. We must also be deeply concerned with the formulation of such policy as well. It is not by accident that more and more of the engineers emerge from here as engineers find themselves moving into positions of leadership and administration."

The sentiment is echoed in Beerseba by the rector, himself formerly involved in Israel's nuclear programme. He says Israel must cope with emergencies such as when the French put an embargo on the sale of aircraft: its own engineers had to take on the task of military development.

There are other worries about manpower, including the parental—and international—concern for the overproduction of liberal arts graduates. An interdepartmental committee of the Jerusalem government is examining the imbalance between the number of academically trained engineers (many) and technicians and craftsmen (few).

There are also general agreement that expansion in the 1960s and early 1970s was overheated. Why, it is asked, should there be two major institutions cheek by jowl on the slopes of Mount Carmel in Haifa. The building boom has left much of the universities' plans greatly underused. For the Hebrew University, founded nearly a quarter of a century before the state of Israel itself, the issues are clear. The rector, Professor Eldon Camp, a chemist, puts his view bluntly. "Too many universities were opened in Israel. The Technion, the Hebrew University and Bar-Ilan (the religious university in Tel Aviv) could have accommodated it all. The pressure for expansion came from politicians, hospital doctors wanting to become professors, from the Sickness Insurance Fund and the public corporations."

Like the British, the Israelis have found that the rubric of academic prestige is seamless. Outside the universities various teachers' colleges and vocational institutions began to aspire to academic respectability. In the past few years, the Council for Higher Education, the body to which the government has delegated various tasks such as recognition of academic degrees and the provision of advice on education and research, has faced the problem of ambitious colleges such as the Bezalel Academy of Arts and Design in Jerusalem.

Should it allow them to grant degrees? The alternative is to attempt to link the colleges to the universities and rely on them for academic accreditation of courses. Mr Dan Ronen, a senior official in the Education Ministry, predicts that Haifa, Beerseba and Tel Aviv Universities are going to have to become "comprehensive" between now and the end of the century by absorbing the community and vocational colleges.

Planning the output of the universities in the light of national strategic need would be difficult because the machinery does not exist. Moreover, from the university side the balance is seen as just about right. The Technion, said to play MIT to the Hebrew University's Harvard, boasts of the numbers and quality of its technologists and their broad role in the development of the state. Mr Horev said recently: "It is not enough to have the manpower which implements development policy. We must also be deeply concerned with the formulation of such policy as well. It is not by accident that more and more of the engineers emerge from here as engineers find themselves moving into positions of leadership and administration."

The sentiment is echoed in Beerseba by the rector, himself formerly involved in Israel's nuclear programme. He says Israel must cope with emergencies such as when the French put an embargo on the sale of aircraft: its own engineers had to take on the task of military development.

There are other worries about manpower, including the parental—and international—concern for the overproduction of liberal arts graduates. An interdepartmental committee of the Jerusalem government is examining the imbalance between the number of academically trained engineers (many) and technicians and craftsmen (few).

There are also general agreement that expansion in the 1960s and early 1970s was overheated. Why, it is asked, should there be two major institutions cheek by jowl on the slopes of Mount Carmel in Haifa. The building boom has left much of the universities' plans greatly underused. For the Hebrew University, founded nearly a quarter of a century before the state of Israel itself, the issues are clear. The rector, Professor Eldon Camp, a chemist, puts his view bluntly. "Too many universities were opened in Israel. The Technion, the Hebrew University and Bar-Ilan (the religious university in Tel Aviv) could have accommodated it all. The pressure for expansion came from politicians, hospital doctors wanting to become professors, from the Sickness Insurance Fund and the public corporations."

Like the British, the Israelis have found that the rubric of academic prestige is seamless. Outside the universities various teachers' colleges and vocational institutions began to aspire to academic respectability. In the past few years, the Council for Higher Education, the body to which the government has delegated various tasks such as recognition of academic degrees and the provision of advice on education and research, has faced the problem of ambitious colleges such as the Bezalel Academy of Arts and Design in Jerusalem.

Should it allow them to grant degrees? The alternative is to attempt to link the colleges to the universities and rely on them for academic accreditation of courses. Mr Dan Ronen, a senior official in the Education Ministry, predicts that Haifa, Beerseba and Tel Aviv Universities are going to have to become "comprehensive" between now and the end of the century by absorbing the community and vocational colleges.



Synagogue at the Hebrew University in Jerusalem.

An important factor in all this has been the internationalism of the universities. By means of a system of organized "friends" in the United States, Canada and Western Europe the universities have been able to call on a flexible form of external finance and moral support. Intellectual life has been directed outward. Academics have until recently been encouraged to take higher degrees and post-doctoral trips abroad and Israeli intellectual life has been keyed into publication and success overseas.

The positive side of this is plain to even the most casual visitor—the success of "big" scientific research, well-stocked libraries and high academic productivity, the absence of parochialism and great width of reference that is conducive to high standards.

But this policy also means that Israeli universities confront the possibilities of a transition from elite to mass forms of higher education on an unsure footing. The reference group for most of the Israeli middle class is American Jewry, 90 per cent of whose sons and daughters have a college education: is that desire for formal academic qualification translated into the Israeli context, necessarily right for the country's development?

A related issue, much discussed in recent years, is that of university responsibility to the underprivileged and service to society. Civil servants talk of the need for expansion of the universities' service role—in the sense of more applied research, entrepreneurship, social workers, nurses and the expansion of opportunities for the Oriental Jews.

Much, in fact, has already been done. Israeli agriculture has been successful largely because of the application of science by universities and their related research institutes. All the universities now programme kind of "pre-academic" students without the academic school-leaving certificate up to the right level. The army has been an important catalyst in selecting and encouraging national servicemen and women who might benefit from the number of "second chance" programmes offered.

Beneath these details are more fundamental questions, the sort of question that can only be asked of Israel—a state which came into its three decades, the 3,000 years' history of Jewry. The founders of higher education in what was to become the sovereign state of Israel stemmed from the classical European tradition of learning and were, moreover, scientists.

These were men such as Chaim Weizmann and Albert Einstein, the original manuscript of whose Theory of Relativity is now proudly conserved in the Hebrew University's library. They and others shared the great Zionist ambition which lay in making a university in Palestine "a rallying point for the Hebrew spirit for Jews scattered across the world."

A wide conception of the university as a social focus and a meeting place of cultures in the Middle East in the new land came, from men such as Martin Buber, the philosopher whose ideas still permeate adult education in Israel. Yet the "spiritual" conception of the university was never really estab-

lished. The Israeli universities came western and pragmatic. In the new state, as through the history of Jewry, preparation for the religious career took place in specialized institutions—yeshiva—and within the universities only one religious faculty, the Bar-Ilan University's, has departments for the study of Judaism but it is treated as one of the humanities subject.

Some academics regret the secularization of the universities in a sense that the universities seem to contribute little in Israel—where in the Western world—the forming of society's values. They contribute material of course. The expertise of the fessoriate is frequently called upon by the government: the recent work of the scholar of Marx and the Professor Shlomo Avineri, a high position in the government service is only one of a recent crop of borrowings.

But attention to ideas of self should not obscure what undoubtedly higher education has brought to Israel—the creation of a full-blown academic institution which, though their basic work done in the national language, is fully in tune with international science and scholarship. It has been a creation in itself, literally barren sand. Beerseba is an example of an academic town where prize-winning buildings tower over what was desert a generation ago. With great energy and industry behind the glossy exterior first commitment to standards is laid. According to the former diplomat Avraham Harman now president of the Hebrew University, "It would have been still now easy for us to become a second-rate city with our population and our unique language. To do this we have had to be open to new immigrants and to the national academic exchange."

He lays down three prerequisites to fend off "provincialization" and it is in damaging these that the greatest danger lies, he says in grants laws. They are the selection of an international language for communication—English (at least the sort that is read in the columns of American scientific journals)—the finding of resources to help people from foreign universities to Israel; and, most important, the sending of Israeli academics to postgraduate abroad.

There are several ways forward from this "time of consolidation" as Mr Harman calls it, predicting that the map of higher education in Israel will change between now and the end of the century. The buildings can accommodate thousands more students and, civil servants add, the staff/student ratio pushed so they could accommodate additional academics. What would these come from? Most of the answers—more from Arab students, the admission of West Bank Arabs (if they wanted to) and Hebrew and come—are based on the clear and settled question of the Middle East.

The other answer, increasing the number of Oriental Jews, and second chance students—problems of organization and maintenance of standards. But academics agree they must be found. Meanwhile, the universities must continue to fulfil national needs for trained professional power.

Israel

# Everyman's University: New institutions play key role in-service training and second chances

The story of the founding of Israel's "open university", which started in 1962, is a story of the search for many of those qualities most characteristic of the country's higher education—boundless energy for the creation of new institutions, generous private donations, and the intention to provide for the disadvantaged without losing academic standing.

But Tel Aviv's Everyman's University has also provided a story of high ambition trimmed by the pressures of money and government finance, the mismatch between private provision and government responsibility and the power of the traditional keepers of the academic conscience in the universities.

For all that, the Everyman's University seems to have been a success story. Last year over five students applied for every place on its courses and it seems in the broad field of higher education its experiments with educational technology and new teaching methods could give a much-needed stimulus.

The idea of an open university stemmed eight years ago from two separate sources, one public one private. In the public sphere, Sir Harold Wilson, who is a popular figure in Israel, must be given some credit. For in 1959 Mr Yigal Alon became Minister of Education and Culture and there is no doubt that he, a personal friend of Sir Harold, was impressed by the British Open University which was just opening when Sir Harold's government took office. Meanwhile an independent initiative had been taken by the Rothschild Foundation without the government's knowledge. The foundation, nicknamed in Israel "the big giver", had done much work in educational technology and the use of television in schools. Its secretary-general, Mr Max Rowe, had done a lot of the groundwork for at least considering an "open learning system" at higher levels.

Typically, the Rothschild Foundation was able to call on a group of international experts to assess Israel's need. It commissioned a report from a group led by Professor Wilbur Scramm, education officer at the University of Cambridge, a communications specialist, and including Professor David Hawkridge, director of the Institute of Educational Technology at Britain's Open University.

The experience of the British OU was a useful benchmark in the early stages in Israel. It was recognized, for example, that sanguine hopes of immediately reaching those who had dropped out of conventional education by means of television and radio were misplaced. A large part of the target population of Israel's open university was always intended to be those who had some education such as primary school teachers or those who needed to improve their level of the matriculation certificate required for entry to the traditional university.

In fact, in the light of the recommendations of Professor Scramm, the Rothschild Foundation decided to go ahead with the \$8m investment to carry out, under the university's framework three different purposes. The Everyman's University is planned to provide long-term teacher education, especially for elementary and intermediate grades; to give a second chance at a university general de-

gree for disadvantaged groups with a basic curriculum of mathematics, natural science and social studies; and to provide adult education by means of a range of technical and liberal arts courses.

Meanwhile, the established universities have been actively expanding their post-graduate courses to try to encourage more drop-out from the secondary system back into education, not venturing, except at Haifa University, into extra-mural work. But it could be that political pressures will encourage them to do more of the kind of work which has not yet been done.

The planners of the Everyman's University have never slavishly copied the models of the British OU or the media experiments of West Germany and the United States. For one thing, television itself is not fully developed in Israel. There is only one channel and so no much use has been made of the radio. In other words, the Everyman's University has used a different "media mix", relying on correspondence courses and giving a central position to classes run in existing educational buildings using part-time tutors recruited from the universities.

Even so, the Israelis have made full use of foreign-made programmes, especially in science, and have made use of their own in archaeology and geology. The Everyman's academic secretary, Mr Robin Twiss, a Briton seconded from his post as representative of the British Council in Israel, says that the use of the education plan, much of which is not as intensively used as it might be. Much work has gone into producing course material, books and notes in attractive packages for the unit-based students.

In addition to the degree courses special one-off programmes have been prepared for the non-degree students. They range from electronics to basic computer literacy to courses in the basic economic and social problems of Israel.

There have, however, been problems of fitting what the Everyman's University can offer into the existing provision of vocational education. But its courses have been opened in the sense of providing a qualification for another, more formal, course? Some efforts have been made to allow its technological courses to qualify students for the various diplomas offered under the auspices of the Israel Ministry of Labour.

So far no hard and fast rules have been laid down regarding age and attainment of students being accepted. The Everyman's University relied on students themselves assessing whether they would be able to keep up. Even this flexibility, however, did not prevent the university's first enrolment from being a mismatch of people in an professional and managerial backgrounds.

Another major problem, which might be easier to solve when the university reverts to government funding, is to link its flexible means of teaching with existing colleges. One of the ambitions of the Everyman's is that its courses and units should be utilized in primary teacher training in the colleges.

## Obstacles for Arab students

The main route to higher education for the 450,000 Arabs who live in Israel proper—that is, excluding the area on the West Bank, Sinai and the Golan Heights occupied by Israel—is through teacher training colleges. The latest figures, for 1974-75, show a total of 720 Arab students in training colleges.

Numbers of Arab students in the universities are difficult to estimate. The official figure of non-Jews at academic institutions three years ago was 990. Most of these are Arabs, concentrated at the Technion and Haifa University, in the north. Arab students pose security problems for the fenced-in campus of the Hebrew University which has a total of 500 Arab and Druze students. Education on the West Bank is

run autonomously and leads to teacher training, vocational college or university education in Dannequs, Amman or Cairo. A very small number attend the Israeli universities.

During the past few years there have been sporadic attempts by local politicians to establish a university of the West Bank based on existing colleges at Nablus, Jericho and Ramallah but municipal jealousy has proved a stumbling block.

Not the least problem for Arab higher education in Israel is language. Arabs need to know not only Hebrew, the basic language of instruction, but also English, without which the passage to a degree in most of the sciences and arts is nearly impossible.

The story of the founding of Israel's "open university", which started in 1962, is a story of the search for many of those qualities most characteristic of the country's higher education—boundless energy for the creation of new institutions, generous private donations, and the intention to provide for the disadvantaged without losing academic standing.

But Tel Aviv's Everyman's University has also provided a story of high ambition trimmed by the pressures of money and government finance, the mismatch between private provision and government responsibility and the power of the traditional keepers of the academic conscience in the universities.

For all that, the Everyman's University seems to have been a success story. Last year over five students applied for every place on its courses and it seems in the broad field of higher education its experiments with educational technology and new teaching methods could give a much-needed stimulus.

The idea of an open university stemmed eight years ago from two separate sources, one public one private. In the public sphere, Sir Harold Wilson, who is a popular figure in Israel, must be given some credit. For in 1959 Mr Yigal Alon became Minister of Education and Culture and there is no doubt that he, a personal friend of Sir Harold, was impressed by the British Open University which was just opening when Sir Harold's government took office.

Meanwhile an independent initiative had been taken by the Rothschild Foundation without the government's knowledge. The foundation, nicknamed in Israel "the big giver", had done much work in educational technology and the use of television in schools.

Its secretary-general, Mr Max Rowe, had done a lot of the groundwork for at least considering an "open learning system" at higher levels.

Typically, the Rothschild Foundation was able to call on a group of international experts to assess Israel's need. It commissioned a report from a group led by Professor Wilbur Scramm, education officer at the University of Cambridge, a communications specialist, and including Professor David Hawkridge, director of the Institute of Educational Technology at Britain's Open University.

The experience of the British OU was a useful benchmark in the early stages in Israel. It was recognized, for example, that sanguine hopes of immediately reaching those who had dropped out of conventional education by means of television and radio were misplaced.

In the brochure produced by the Arab-Jewish Centre the tone is strikingly different; indeed, the word "Zionist" is not mentioned. It says: "Although not viewed as an alternative to diplomatic peace efforts, the centre will be instrumental in seeking the internal peace which must exist within Israel's borders. Protracted negotiations are inevitable between the nations of this battle-torn region, but the building of bridges of mutual understanding can and must begin here in Israel where Jews and Arabs live side by side."

The point is not just that within the same university two departments can have different values, rather that if the debate between the two positions can be raised to an intellectual and academic plane, it promises the Haifa University a degree of excitement and internal diversity which can only be healthy for the preservation of the liberal university.

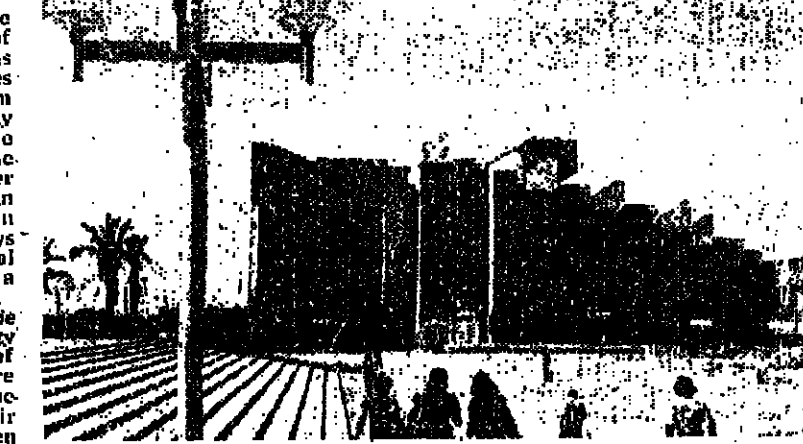
The attraction of the new universities lies in the novelty of their courses and their position as local, "home-grown" colleges. At Haifa the two are combined in a range of education degree courses which are run in conjunction with the kibbutz movement's own training college and as a social work course.

Both universities have made special provision for students from disadvantaged backgrounds, particularly Oriental Jews. In Israel last year nearly two out of three pupils starting primary school were from families stemming from the Yemen, Iraq, Morocco and so on. Only one in four of those who finished high school and barely one in eight university graduates came from the same homes.

All the universities have schemes to get to grips with this gross fact, but the new universities are perhaps better placed in so far as they can build up an intimate connexion with a local catchment area.

While the two new universities share many features there are differences of subject and emphasis. The new universities are perhaps better placed in so far as they can build up an intimate connexion with a local catchment area.

Emphasis is put within the university on its responsibility towards not only the local Sephardic community but also to new immigrants. Beerseba has something of the air of a "science city" and has traditionally attracted a number of the often highly qualified new Russian immigrants. Places for engineers need to be found in the faculty and the children of the newcomers need to be assured higher education.



Main plaza of the Ben-Gurion University.

## Pay squeeze hits academics

Last year fees for Israeli students increased in real terms, but academic salaries did not. Since 1966 they have been linked to the cost of living but in recent years there have been renewed efforts to secure a real increase.

Last April public sector staff secured a rise of 2.5 per cent above the basic cost of living increase, and among them were university administrators. However, academic salaries have not risen for years, and the Government's reason for behind the fees increase was to reduce the universities' direct dependence on state funds. This year, as a result of the fees rise, universities now take 15 per cent of their income from fees instead of the previous 8.5 per cent.

Haifa probably comes nearest to what some Israeli civil servants see as the future pattern of newly founded branches of Israeli higher education—the "comprehensive" university. It has taken under its academic wing the work of the Oranin, the kibbutz movement's training college and itself has established outfield "branches" at Afeka in the Jezreel Valley and Kiryat Shmona by the Lebanese border to cater for people who cannot come to Haifa because they are tied up with their farming work. Teachers travel to these centres two days a week and students are expected to spend one year of the course full time at Haifa.

Along among the universities, it has invested in adult education and runs a range of just-experience courses for the region. These include courses in hotel management and tourism and in shipping and port administration.

The research emphasis of the Ben-Gurion university, especially applying science to the problem of arid zones, is clear. The university recently absorbed what was formerly an autonomous research and development organization specializing in the possible uses of brackish water for agriculture and the applications of solar energy. There has been considerable investment in developing an arid zone plant, the jobaba bush (*Simsimia chinensis*), the seeds of which contain oil with properties very similar to sperm whale oil. The problem lies in turning this "industrial" plant from a research success to a commercial proposition.

The university has ambitious plans for a desert research institute to become its second campus at Sde Boker in the Negev. This will involve inter-disciplinary cooperation between archaeologists, natural scientists, architects and social scientists for it is intended to provide the academic basis for the "capture" of the desert as a habitable environment.

Emphasis is put within the university on its responsibility towards not only the local Sephardic community but also to new immigrants. Beerseba has something of the air of a "science city" and has traditionally attracted a number of the often highly qualified new Russian immigrants. Places for engineers need to be found in the faculty and the children of the newcomers need to be assured higher education.







BOOKS

Guide to contemporary heresy

Unfinished Animal: The Aquarian Frontier and the Evolution of Consciousness by Theodore Roszak...

Theodore Roszak is right. The world grows odder. As I fly back from Jerusalem I am entertained by a cockney monk trying to convert a Bournemouth Jewess to Krishna Consciousness...

Rozsak has his own examples and he sets them down according to their kind in a four-page box of delights. The smallest entry is headed 'Judeo-Christian Revivals'...

For Rozsak the promise is still there and it is to be found in the universal underground of gnosis. In the beginning man had access to this promise and then with Christianity and with the modern world travelled away from it...

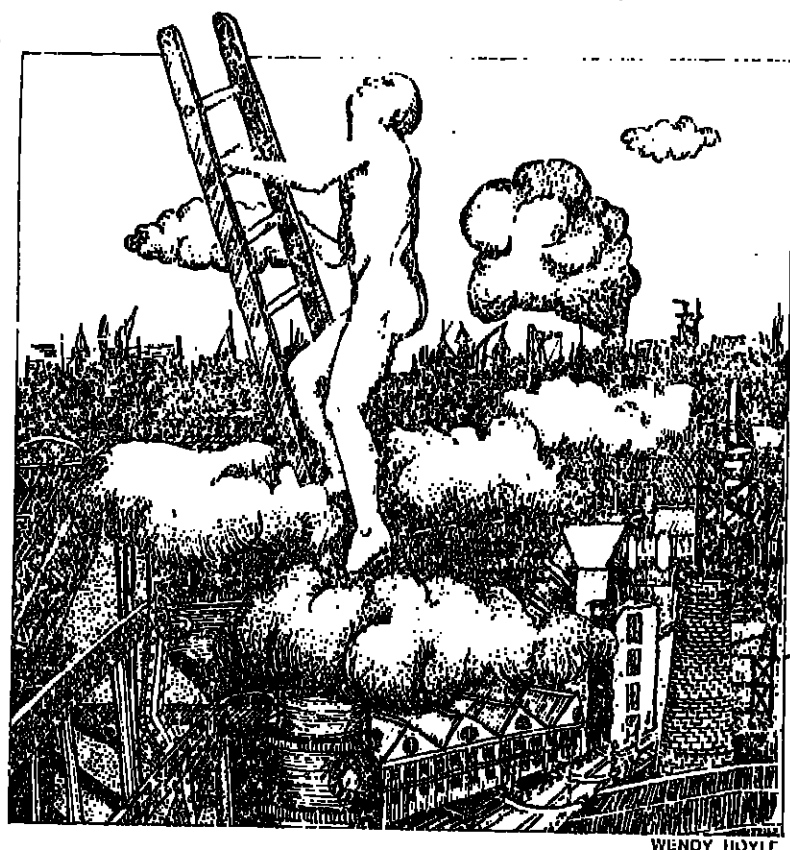
But Rozsak has enough examples to make his case. The world definitely grows odder. In the 1960s and these peculiarities look like the terminal moraine of counter-culture...

not merely as a complicated mechanism. Man harbours fragments of divinity and recognizes a mirror of divinity in the natural world.

Recognition is perhaps the key word. For two or three centuries we have fallen into cognition, abstracting things and removing them from their context in order to control and dominate...

Rozsak has his own examples and he sets them down according to their kind in a four-page box of delights. The smallest entry is headed 'Judeo-Christian Revivals'...

For Rozsak the promise is still there and it is to be found in the universal underground of gnosis. In the beginning man had access to this promise and then with Christianity and with the modern world travelled away from it...



WENDY HOYLE

had to unlearn the Christian notion of an irreducible opposition between flesh and spirit and the Freudian notion that the spirit is merely a surface disguise for the reality of the flesh.

I have rephrased the argument this way because Roszak is particularly anxious to put the bizarre and undisciplined aspect of the counter-culture in proper perspective. He wants to show that if you shut people away from themselves and make them off from Nature they will find their vision of false starts once they return to the world of order. It is industrial civilization which he indicates as the principal cause of blindness.

industrial taint: the hidden myth, a wild science, and a humanistic revolution. Each of these is a form of heresy. Roszak proudly claims to be a heretic. And they are interconnected. The wild science is connected with the hidden myth. For example, there are versions of biology which allow for, or even positively require, an image of evolution rooted in purpose and destiny. The dominant evolutionary paradigm concedes far too much to mere chance and pure adaptation.

man of faith, not the man of science who says that we must be tentative about what we assume. It is less exclusive about the boundaries of truth. The scientist is tentatively pilloried as established a mafia and the prophet assumes a role of creative heretic.

All this appears very much to be contemporary zeitgeist, and that in itself a paradox. Roszak has the mantle of prophet but he is most of the contemporary faith on his side, above all, the faith for heresy. There is almost none today who does not recommend a wares as another installment of heresy.

But this appears very much to be contemporary zeitgeist, and that in itself a paradox. Roszak has the mantle of prophet but he is most of the contemporary faith on his side, above all, the faith for heresy. There is almost none today who does not recommend a wares as another installment of heresy.

But this appears very much to be contemporary zeitgeist, and that in itself a paradox. Roszak has the mantle of prophet but he is most of the contemporary faith on his side, above all, the faith for heresy. There is almost none today who does not recommend a wares as another installment of heresy.

industrial taint: the hidden myth, a wild science, and a humanistic revolution. Each of these is a form of heresy. Roszak proudly claims to be a heretic. And they are interconnected. The wild science is connected with the hidden myth. For example, there are versions of biology which allow for, or even positively require, an image of evolution rooted in purpose and destiny.

The Last of the Lairds: The Life of Malachi Malings, Esq. of Auldbiggings by John Galt edited by Ian Gordon...

The Brownie of Bodsbeck by James Hogg edited by Douglas S. Mack...

Love, Labour and Liberty: The Eighteenth Century Scottish Lyric edited by Thomas Crawford...

Galt's The Last of the Lairds was published in 1826 and has frequently been reprinted. Now, however, after exactly a century and a half we are given for the first time what Galt actually wrote...

Briefly what happened was this: Galt had intended The Last of the Lairds to be the final volume of what he called his "Tales of the West" (of Scotland)...

Mr Douglas Mack has carried out a similarly skilful and useful task on the text of The Brownie of Bodsbeck. He also has gone back to the original manuscript, about two-thirds of which survives in the National Library of Scotland...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Mr Crawford's Love, Labour and Liberty, the first volume to be published of Carcanet's promising new Scottish Books series, is of a different kind, but also one involving a good deal of original research...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Frank Kermode

Lairds, legends and lyrics

The Last of the Lairds: The Life of Malachi Malings, Esq. of Auldbiggings by John Galt edited by Ian Gordon...

The Brownie of Bodsbeck by James Hogg edited by Douglas S. Mack...

Love, Labour and Liberty: The Eighteenth Century Scottish Lyric edited by Thomas Crawford...

Galt's The Last of the Lairds was published in 1826 and has frequently been reprinted. Now, however, after exactly a century and a half we are given for the first time what Galt actually wrote...

Briefly what happened was this: Galt had intended The Last of the Lairds to be the final volume of what he called his "Tales of the West" (of Scotland)...

Mr Douglas Mack has carried out a similarly skilful and useful task on the text of The Brownie of Bodsbeck. He also has gone back to the original manuscript, about two-thirds of which survives in the National Library of Scotland...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Hogg is certainly very successful not only in the pre-secular, such as the Royalist interrogations and the trial scene itself, but also in recreating the grim atmosphere of the Scottish Jacobite like animals...

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

Wasserman was a distinguished member of the English faculty at Johns Hopkins; this collection of essays represents the diverse forces and interests of that body, and of English Literary History.

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

the newer Johns Hopkins, now the masterpiece of Yale. Hopkins has always been in Europe, but now exclusively to Paris, Geoffrey Hartman's essay, "Christopher Smart's Magnificat: Towards a Theory of Representation" is in the new allusive manner...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Although I must confess to a weakness for the older style, there is no denying that the most excellent and powerful essay in the collection belongs to the new. This is J. I. Miller's "Narrative and History". Miller argues that certain systematic assumptions about history (assumptions that survive, though repeatedly called into question) are transferred more or less intact to fictional narrative (partly out of an ancient fear of lying, or the desire to be exonerated from imputations of malice)...

Frank Kermode

A literary reading of Shakespeare

Shakespeare and the Revolution of The Times: Perspectives and Commentaries by Harry Levin...

Professor Levin's book consists of essays, occasional addresses and reviews published over the last 15 years, now assembled into a single volume. The title essay, dealing with Shakespeare's attitude to order and change, is echoed in the titles of the book, "Perspectives", "Commentaries" and "Further Perspectives"...

But at the core of the argument, and frequently explicit to view, are the author's own commitments. One is a belief in the former role of religion as a moral regulator, but with the "received curriculum" and "orderly social life" a third level of confusion "what discrimination is imperative to culture and to life"...

The strength of the book is in the writing. Levin writes extremely well and offers us the experience of a most sensitive mind exploring and Dr. Levin's "Presently" Shakespeare's plays and discovering fresh if minor insights into them. Indeed, the real value of the book lies in the fresh and personal quality of his response rather than in the discovery of anything new...

well known, and there is little with which we are not familiar in the essays on the end of Elizabethan drama, or the underplot of Twelfth Night, or Coriolanus or Marlowe reconsidered. The long essay "The Primacy of Shakespeare" merely restates Dr. Johnson's defence in the Preface of Shakespeare's greatness on the grounds of his having pleased many a long time...

On the other side, Levin is notably sensitive to Shakespeare's language. His essays on the functional use of rhetoric in Romeo and Juliet, for example, or the language of domestic tragedy in Othello, or Shakespeare's use of proper names, are very illuminating. Perhaps the most stimulating of all is the essay "Relativity: Uncoloured" which first analyses the significance of the "horseless" Falstaff in a play where everyone else is mounted, and then goes on to examine Shakespeare's exploitation of the theme of being horsed or horseless in a theatre where no real horse ever appeared on stage...

Occasionally Levin throws up an idea which, though exciting and initially plausible, will not stand closer scrutiny. In this respect the essay on King Lear is one of the most provocative. It starts with some excellent comments on the sequence of notes, "the forbidden interval known as diabolus in musica" which Edmund sings while waiting for Edgar, and on Edgar's "Prayer" as "Prayer" as the name for one of the devils attendant on Poor Tom; but its main concern is with the Dover Cliff scene.

Levin argues that the Elizabethan audience does not realize until after the event that the cliff over which Gloucester attempts to throw himself is not to be understood as a real one, since the only means of indicating a real cliff in the Elizabethan theatre would be by the sort of description which Edgar gives of it. In the circumstances therefore the audience would share more completely in the experience of Gloucester himself and be more moved by the metaphorical fall and subsequent rising than it is possible for any playgoer to be. This is an intriguing but to me untenable idea. Levin himself points out in another context that little Prince Arthur falls to his death in King John from the upper stage and Shakespeare's audience must have been aware from the start that a stage death would not be presented without more visual suggestion than is offered by a merely verbal preparation. One has only to compare the sort of visual realism possible in the putting out of Gloucester's eyes, for example, with the obviously taken-fall over the cliff, to see the improbability of Professor Levin's suggestion. While claiming to be discussing the play in production he ignores the facts of the theatrical experience, and this is largely true of the book as a whole.

means of indicating a real cliff in the Elizabethan theatre would be by the sort of description which Edgar gives of it. In the circumstances therefore the audience would share more completely in the experience of Gloucester himself and be more moved by the metaphorical fall and subsequent rising than it is possible for any playgoer to be. This is an intriguing but to me untenable idea. Levin himself points out in another context that little Prince Arthur falls to his death in King John from the upper stage and Shakespeare's audience must have been aware from the start that a stage death would not be presented without more visual suggestion than is offered by a merely verbal preparation. One has only to compare the sort of visual realism possible in the putting out of Gloucester's eyes, for example, with the obviously taken-fall over the cliff, to see the improbability of Professor Levin's suggestion. While claiming to be discussing the play in production he ignores the facts of the theatrical experience, and this is largely true of the book as a whole.

Occasionally Levin throws up an idea which, though exciting and initially plausible, will not stand closer scrutiny. In this respect the essay on King Lear is one of the most provocative. It starts with some excellent comments on the sequence of notes, "the forbidden interval known as diabolus in musica" which Edmund sings while waiting for Edgar, and on Edgar's "Prayer" as "Prayer" as the name for one of the devils attendant on Poor Tom; but its main concern is with the Dover Cliff scene.

Levin argues that the Elizabethan audience does not realize until after the event that the cliff over which Gloucester attempts to throw himself is not to be understood as a real one, since the only means of indicating a real cliff in the Elizabethan theatre would be by the sort of description which Edgar gives of it. In the circumstances therefore the audience would share more completely in the experience of Gloucester himself and be more moved by the metaphorical fall and subsequent rising than it is possible for any playgoer to be. This is an intriguing but to me untenable idea. Levin himself points out in another context that little Prince Arthur falls to his death in King John from the upper stage and Shakespeare's audience must have been aware from the start that a stage death would not be presented without more visual suggestion than is offered by a merely verbal preparation. One has only to compare the sort of visual realism possible in the putting out of Gloucester's eyes, for example, with the obviously taken-fall over the cliff, to see the improbability of Professor Levin's suggestion. While claiming to be discussing the play in production he ignores the facts of the theatrical experience, and this is largely true of the book as a whole.

Levin argues that the Elizabethan audience does not realize until after the event that the cliff over which Gloucester attempts to throw himself is not to be understood as a real one, since the only means of indicating a real cliff in the Elizabethan theatre would be by the sort of description which Edgar gives of it. In the circumstances therefore the audience would share more completely in the experience of Gloucester himself and be more moved by the metaphorical fall and subsequent rising than it is possible for any playgoer to be. This is an intriguing but to me untenable idea. Levin himself points out in another context that little Prince Arthur falls to his death in King John from the upper stage and Shakespeare's audience must have been aware from the start that a stage death would not be presented without more visual suggestion than is offered by a merely verbal preparation. One has only to compare the sort of visual realism possible in the putting out of Gloucester's eyes, for example, with the obviously taken-fall over the cliff, to see the improbability of Professor Levin's suggestion. While claiming to be discussing the play in production he ignores the facts of the theatrical experience, and this is largely true of the book as a whole.

General Editor: Tony Howarth

Careers information and guidance for all who earn their living (or wish to earn their living) in education inside or outside the UK, whatever their academic level or specialist field.

The career opportunities, qualifications required, salaries and future prospects in over 20 different fields of education are examined in specially commissioned articles written by expert correspondents.

Areas covered range from pre-school education and care to university and polytechnic posts and include employment opportunities in educational administration, educational broadcasting, publishing and journalism, educational psychology, the youth and community service, adult and community education, education overseas, education in the armed forces, in community homes, in prisons, etc. etc.

TES Guide to Careers in Education 1977-78. Nelson. Includes contact information for Thomas Nelson & Sons Ltd, London.

Contemporary Transformations of Religion by Bryan Wilson...

From the title of these Riddell Memorial lectures one might be forgiven for supposing that 10 years after his Religion in Secular Society a classic statement of the "secularist" case for secularization, Bryan Wilson had now reverted to a mood of revisionist optimism after all. Not so. For instead of seeing the current transformations as denoting a new lease of life on contemporary religion, he sees them instead as administering the final kiss of death.

There are three main lines of argument. One is simply that secularization (defined in the earlier work as "the process whereby religious thinking, practice and institutions lose social significance") is now far advanced, and Christianity, in whatever form, has now reached "a point beyond which no religious system can go in the adoption of secular and rational religious cults of the West, however strong their appeal, are ultimately an eclectic and individualistic 'turn an adequate base for a new religious culture'. Finally, even the 'revivifying' sect formations of the Third World, for all their apparent vitality, are, like Weber's Protestantism, ultimately secular in their impact.

But are all three conclusions as incontrovertible as (especially with

reinforced by Wilson's bleakly chiliastic tone and elegantly ironic style) they at first seem to be? The latter is persuasive, if only because, as Wilson says in Magic and the Millennium, Wilson is better than most of us at monitoring the precise relationships between social change throughout the Third World. Yet even with those moves about which he provides most material—Kimbanguism in Zaïre, Jehovah's Witnesses in Kenya, and Chilean Pentecostalism—there seems as yet little hard evidence for the secularizing potential he attributes to them. In Chile, for example, it is difficult to see precisely how Pentecostalism's "new style of personal dedication, social obligation, and even a type of civic commitment... through which men learn to do things for themselves" necessarily induces secularization. It might equally well go underground if political suppression increases, or alternately, if political-economic stability is achieved, become the licensed creed of the new elite.

With his second preoccupation—the prospects for the victors of new religious movements in the West—Wilson is clear-minded, perceptive and merciless. His analysis should be read not only by would-be adherents (and, if you'll be so good, also by those who persist in seeing the maintenance or renewal of religion in such diverse manifestations as transcendental meditation, Hare Krishna or the Divine Light Mission. For although, like others, to reinterpret salvation constitute, in a technical sense, a transformation of religion, they are not, in essence, socially transformative.

For one thing it should not be supposed that "a transformation of the individual's consciousness... will lead to a transformation of social order". For another they do not spring from the traditional, but rather from the prevailing and, intrinsically, individualistic ideological climates of ideology. As such they are of little more than "contemporary value" is often verbalized as a moral imperative to adjust to the former.

Such rather arbitrary assumptions about social processes also seem, at times, to distort the supporting detail on which they are supposedly based. For example, although the statistics Wilson cites are clear—if crude—evidence of a decline in belief in the supernatural, that same evidence does not, as he implies, as is claimed here, "the rejection of the idea that the supernatural has any significance in the everyday life of modern man". The historical fact is that when we are told that "laissez faire economics inevitably led to a laissez faire morality" (which, in Victorian Britain at least, is precisely what did not happen!); how, with the coming of Methodism, standards of disinterestedness were steadily diffused through a much wider body of the population—a body of which, to say the least, is still a matter for continuing debate.

Indeed, just as Wilson's compact history of secularizing social processes often seems far from social reality, so his references to a pre-secular world we have lost lack real historical precision. It was, apparently, a world of mutually interdependent social relationships,

but it still remains not merely institutionalized, but actually operational in many spheres of contemporary social life. Even the case for "a basic shift from a concept of society as a moral order to one of society as a technical order" is not wholly proven. Indeed, individual adjustment to the latter (a predominant contemporary value) is often verbalized as a moral imperative to adjust to the former.

Such rather arbitrary assumptions about social processes also seem, at times, to distort the supporting detail on which they are supposedly based. For example, although the statistics Wilson cites are clear—if crude—evidence of a decline in belief in the supernatural, that same evidence does not, as he implies, as is claimed here, "the rejection of the idea that the supernatural has any significance in the everyday life of modern man". The historical fact is that when we are told that "laissez faire economics inevitably led to a laissez faire morality" (which, in Victorian Britain at least, is precisely what did not happen!); how, with the coming of Methodism, standards of disinterestedness were steadily diffused through a much wider body of the population—a body of which, to say the least, is still a matter for continuing debate.

Indeed, just as Wilson's compact history of secularizing social processes often seems far from social reality, so his references to a pre-secular world we have lost lack real historical precision. It was, apparently, a world of mutually interdependent social relationships,

but it still remains not merely institutionalized, but actually operational in many spheres of contemporary social life. Even the case for "a basic shift from a concept of society as a moral order to one of society as a technical order" is not wholly proven. Indeed, individual adjustment to the latter (a predominant contemporary value) is often verbalized as a moral imperative to adjust to the former.

Such rather arbitrary assumptions about social processes also seem, at times, to distort the supporting detail on which they are supposedly based. For example, although the statistics Wilson cites are clear—if crude—evidence of a decline in belief in the supernatural, that same evidence does not, as he implies, as is claimed here, "the rejection of the idea that the supernatural has any significance in the everyday life of modern man". The historical fact is that when we are told that "laissez faire economics inevitably led to a laissez faire morality" (which, in Victorian Britain at least, is precisely what did not happen!); how, with the coming of Methodism, standards of disinterestedness were steadily diffused through a much wider body of the population—a body of which, to say the least, is still a matter for continuing debate.

Indeed, just as Wilson's compact history of secularizing social processes often seems far from social reality, so his references to a pre-secular world we have lost lack real historical precision. It was, apparently, a world of mutually interdependent social relationships,

but it still remains not merely institutionalized, but actually operational in many spheres of contemporary social life. Even the case for "a basic shift from a concept of society as a moral order to one of society as a technical order" is not wholly proven. Indeed, individual adjustment to the latter (a predominant contemporary value) is often verbalized as a moral imperative to adjust to the former.

Graham Hoare







**Oxford Economics**  
**Macroeconomic Themes**  
 Edited Readings in Macroeconomics  
 With commentaries by M.J.C. Surrey  
 This book is designed as a guide through the literature of macroeconomics, much of which is addressed to professional economists and written at a level daunting for students. Short extracts from the original works are accompanied by introductory notes to each chapter. £8.95 paper covers £3.95

**Leading Issues in Economic Development**  
 Gerald M. Meier  
 The second edition of this established text book has now been extensively revised and updated. The level of theoretical analysis has been raised, and the individual chapters more closely related to each other in order to stress what the author sees as the major current themes of the subject: poverty, inequality, and unemployment. Third edition paper covers £5.95

**The Economic System in the United Kingdom**  
 Edited by Derek Morris  
 This book enables businessmen and students, especially non-specialist economists, to analyse and understand the management of the British economy. The central chapters on Inflation and Growth are followed by chapters on Income Policy, Fiscal Policy, Monetary Policy, Demand Management, Monopolies, Nationalized Industries, and Medium-term Planning. £10 paper covers £4.95 forthcoming

**Inflation**  
 John Flemming  
 "This is almost certainly the best available guide to economic thinking on inflation and is likely to remain so for some years to come," Samuel Brittan in the *Financial Times*. "An excellent introductory account of the subject and one which deserves a wide readership." *The Economist* £3.25 paper covers £1.40

**Oxford University Press**

**HARVARD/ECONOMICS**  
 Harvey Leibenstein  
**BEYOND ECONOMIC MAN**  
*A New Foundation for Microeconomics*  
 "Beyond Economic Man is an important contribution to microeconomic theory whose ideas may well be instrumental in encouraging microtheory to develop in new and interesting ways over the next few decades." *Financial Times*. "Harvey Leibenstein argues, in a clear and readable style, that our models are better at understanding, explaining and predicting behaviour if our models have a firmer and more realistic psychological base. Even if they are not all going to agree with him, most economists will find this interesting and important book well worth reading." *C. J. Hawkins, THES*, £11.25.  
 Robert H Silin  
**LEADERSHIP AND VALUES**  
*The Organization of Large-Scale Taiwanese Enterprises*  
 Using Chinese data from Taiwan, the author constructs a framework for the cross-cultural analysis of large-scale organizations, identifying key variables that permit a deeper understanding of the role of cultural factors in organizational behaviour and design. £11.25

**HARVARD UNIVERSITY PRESS**  
 126 Buckingham Palace Road London SW1W 9SD

**The THES - quickly finds you the right staff**  
 When you seek the right person to fill a vacant post, these columns are your fastest route for finding him or her. Investigation has shown that among academics thinking about moving jobs, the THES is considered to be the 'most useful publication'. Remember also that 68% of THES readers 'always' or 'frequently' look at the appointments pages.  
 For further information, contact our Advertisement Dept. on 837 1234.  
**The Times Higher Education Supplement**

**BOOKS**

**Economists' stone?**

**The Path of Economic Growth** by Adolph Lowe, assisted by Stanford Pufrang, with an appendix by Edward J. Nell. Cambridge University Press, £10.00 ISBN 0 521 20888 2

Economists generally reason from a set of initial conditions: "Assume the economy is growing in equilibrium at 4 per cent per annum." A change in conditions is then hypothesized: "The rate of labour force growth doubles" (no reason specified), and conclusions are drawn by describing the resulting conditions. There is seldom disagreement on the first two steps; it is the last that confirms the popular image of two economists producing three conclusions.

Professor Lowe rejects this entire "hypothetico-deductive" or "positivist" procedure as inappropriate and misleading, especially in the analysis of capital-using economies. Instead he suggests analysis should start from given initial conditions and predetermined terminal conditions or "macrogoals", and what the additional labour by adjusting to a new equilibrium growth rate. The economist's task is to determine what physical adjustments in equipment and working capital are necessary to achieve the macrogoal ("structural analysis"), and what behavioural assumptions must be imposed on the system ("force or policy analysis") to ensure that the system actually produces the necessary structural adjustments.

This method of "instrumental inference" (first introduced by Lowe in *On Economic Knowledge*, Harper & Row, 1965) emphasizes both the structural adjustments and the associated feedback mechanisms that must exist (but are ignored in orthodox comparative statics) in any realistic transition. The specification of "efficiency" constraints (that the transition or "traverse" be the shortest time without "malinvestment" or "unemployment") means the economists have made different behavioural assumptions, i.e. a "positivist" difference.

To demonstrate structural adjustment, Lowe presents a two-sector (vertical) model which exhibits characteristics of the Austrian stage (horizontal) approach. This combination produces two special points: the division of the capital sector into sub-sectors, one producing equipment for both sub-sectors, one producing equipment for the consumption sector; and thus, the importance of intermediate goods and working capital in the adjustment process.

To simplify demonstration of efficient traverses involving change in labour growth, natural resource availability and embodied technical change, uniform fixed production coefficients are assumed. (Professor Nell's excellent appendix demonstrates the limitations of this analysis with modern non-neoclassical approaches to capital and growth.)

The force analysis involves specification of the appropriate response

**Quantitatively speaking**

**Basic Econometrics: An Introductory Text for Economists** by Michael S. Common. Longman, £6.95 ISBN 0 582 44670 8  
**Introductory Economic Statistics** by Anne C. Mayes and David G. Wiley, £6.75 and £3.75 ISBN 0 471 58031 7 and 58111 9

In recent years students of quantitative economics and econometrics have been increasingly well catered for, and the trend towards higher quality books continues with these two latest additions to the literature. Both books are pitched at an elementary level, but nevertheless achieve considerable originality in their presentation.

Each book proceeds from introductory regression and concludes with an outline of simultaneous equations estimation. Common's book is a careful and thorough exposition of econometric theory; the algebra is kept to a minimum consistent with a reason-

M. C. Casson

**Equilibrium**

**The Theory of Equilibrium** by A. K. Dixit. Oxford University Press, £2.95 ISBN 0 19 877080 4

What is the point of a theory that does not correspond with the actual development of an industry, shed much light on a problem which some economists have not been able to solve faster than do others. Together in this manner, especially the whole enterprise, since the original essays are dispersed in a rather wide variety of economic theory is to be published.

The model of an economy in equilibrium is both a benchmark and a target. It is a system which certain elements are projected to preliminary stages of considerable significance. The theory is used for purposes for which it was not designed, for example, to describe the economic history that characterizes a regime of decentralized decision making. One need only spell out these requirements to realize the need for public control or guidance at all critical turns.

Lowe's analysis suggests that although a command system could satisfy the "motorial requirements," so should a decentralized system given sufficient ex-ante information and the proper decision algorithms (or sufficient future markets, etc.). But can the required information be discovered for either system? If not more often the case that before one control package (budget or five-year plan) is implemented another system has been hit by yet another exogenous shock, that the economy is always traversing traverses? Lowe recognizes part of the problem in discontinuous technological change where "a subsequent innovation gets under way before the system has been able to cope with all the repercussions of the preceding one. This complication will be disregarded in our analysis". More importantly, is the system generates its own changes (if its development is more biological than mechanical) then guidance at all critical turns may be impossible unless "turns" can be perfectly foreseen. The kind of information any system requires today, to specify the traverse may only be available tomorrow.

Although not all economists would agree with Lowe's claim that "instrumental analysis has a better valid generations than the conventional technical specifications reasoning," his excellent specification of the requirements for a real process of economic change represents an important advance in a neglected area of modern economic theory.

J. A. Kregel

**Industry and Competition: Industrial Case Studies**

by R. W. Shaw and C. J. Sutton. Macmillan, £10.00 and £1.95 ISBN 0 333 18027 5 and 19692 9

All too often micro-economic theory textbooks present models of markets in a vacuum. This text applies theory to 11 case studies each illustrating different aspects of competitive conduct. It provides examples of new entrants to an industry and their effects on prices, diffusion of innovation and excess capacity, as in petrol, washing machines and dry cleaning; examples of dominant firms, the role of patents in pharmaceuticals and oligopoly pricing in petrol, cement and fibres. Non-price competition is illustrated by the car and detergent industries, and structural and technical change is described in textiles and grocery retailing.

The industries are well chosen. An oligopoly market with entry price forming its competitive function of reducing prices and the monopoly profits of established firms. Comment on a case of oligopoly pricing herd.

Frank

**BOOKS**

**Russian economic history**

**Studies in the Russian Economy before 1914** by Olga Crisp. Macmillan, £10.00 ISBN 0 333 16907 7

Dr Crisp is the leading authority in this country on pre-revolutionary Russian economic history, and this volume brings together various of her studies in the subject produced over a period of more than 20 years. A number of the contributions have long been standard reading for students, and fairly readily accessible in major journals and published collections; but it is none the less useful to have them brought together in this manner, especially since the original essays are dispersed in a rather wide variety of economic theory is to be published.

These papers form the main body of the book, and cover Dr Crisp's particular interests, notably the interconnected problems of banking and foreign investment in the post-emancipation era. Also included is a study of "state peasants" during the decades before 1861 and a number of interesting review articles contributed originally to scholarly journals which provide the author with an excellent vehicle for expressing her reflections on major issues in Russian economic history. Finally, there are two papers, both delivered to international economic history conferences, not readily accessible to a general audience: one hitherto unpublished in French, "Russia's Public Debt, and the French Market, 1888-1914", and the

Malcolm Falkus

**Money and the performing arts**

**The Economics of the Arts** edited by Mark Blaug. Martin Robertson, £8.45 ISBN 0 85220 122 3

In certain labour-intensive service industries, such as the production of orchestral concerts and theatrical plays, technical progress cannot augment labour productivity; for labour is both an input and the output. Wage increases in the rest of the economy, where inflationary effects may be counterbalanced by productivity increases, filter through into the arts—where they are not similarly offset. The result is growth is discussed, and the maintenance of the performing arts, if in fact be proved to be a growing gap must develop between expenditure and revenues.

Does this economic and subtle diagnosis of "Blaug's case", so clearly outlined in Professor Blaug's introduction to this fascinating collection of pioneering essays, imply a wholly bleak prognosis for the performing arts? Will the price of attendance at live artistic performances shortly be so prohibitive that our children

**Competitive conduct**

(prisoner's dilemma) with relatively high fixed costs and the evidence shows that firms avoid price-cutting when there is excess capacity. The changes an innovation is particularly good. IBM is an example of a dominant firm with price and technical leadership. Dry cleaning shows how innovation was introduced and diffused through new entrants in pharmaceuticals, patents have led to non-price competition through innovation and frequent changes in the leading firms. Regrettably, the authors fail to expand on the state's role as a "stimulator" of competitive markets through patent administration and patent allocations for NHS drugs. There is no analysis of governments and bureaucracies and their increasing involvement in industrial policy through regulation, restructuring and subsidies. In analysing cases there is only a passing reference to import competition and state financial assistance.

An excellent analysis of textiles using a vintage capital model, shows the industry's long-term adjustment process with price competition but this industry cannot be understood without a longer analysis of the economic "logic" of government policy (for example, the 1959 Act which offered subsidies for scrapping machinery and for leaving the industry in a market which operated a price ceiling from cheap imports). This example is especially relevant to the current industrial strategy: what can policy-makers do, if anything, about such industries?

Critics will find it difficult to suggest well-documented, alternative and superior case studies, and even more difficult to suggest which should be omitted. However, the treatment of washing machines and fibres is superficial and more space could have been devoted to comparing the industry case studies. Nor are there any references to alternative models of firm behaviour, the implicit assumption being profit-maximization. The conclusion is disappointing. "There is a strong argument for studies permitting more careful specification of relevant hypotheses..." but the authors do not suggest "relevant" hypotheses (which are irrelevant?) nor their specification. None the less, students and teachers will be grateful for this volume.

Keith Hartley

**BOOKS**

**Russian economic history**

**The Path of Economic Growth** by Adolph Lowe. Hard covers £10.50 net Paperback £3.95 net

**The Megacorp and Oligopoly** by Alfred S. Eichner. £10.00 net

**Method and Appraisal in Economics** Edited by Spiro J. Latsis. £7.50 net

**Labour Market Adjustment** by Christopher A. Missarides. £10.00 net

**A Model of Output, Employment, Wages and Prices in the UK** by I. F. Pearce, P. K. Trivedi, C. T. Stromback and O. J. Anderson. £5.95 net

**The Economic Advisory Council 1930-1939** by Susan Howson and Donald Winch. £17.50 net

**The Evolution of Giant Firms in Britain** by S. J. Prais. £8.50 net

**Comparisons of the Performance of Swedish and UK Companies** by C. F. Pratten. Paperback £3.50 net

**Cambridge University Press**

**BOOKS**

**Russian economic history**

**The Economic Theory of Society** by Michio Morishima. Hard covers £10.50 net Paperback £3.95 net

**The Path of Economic Growth** by Adolph Lowe. £10.00 net

**The Megacorp and Oligopoly** by Alfred S. Eichner. £10.00 net

**Method and Appraisal in Economics** Edited by Spiro J. Latsis. £7.50 net

**Labour Market Adjustment** by Christopher A. Missarides. £10.00 net

**A Model of Output, Employment, Wages and Prices in the UK** by I. F. Pearce, P. K. Trivedi, C. T. Stromback and O. J. Anderson. £5.95 net

**The Economic Advisory Council 1930-1939** by Susan Howson and Donald Winch. £17.50 net

**The Evolution of Giant Firms in Britain** by S. J. Prais. £8.50 net

**Comparisons of the Performance of Swedish and UK Companies** by C. F. Pratten. Paperback £3.50 net

**Cambridge University Press**

**John Wiley & Sons Ltd.**

**INTRODUCTORY ECONOMIC STATISTICS** by D. G. Mayes and A. C. Wiley, University of Exeter. Introduces the principles of statistics within the context of economics using economic data and showing the role of statistics in analysing and estimating economic problems and in testing economic theories. 0471 58031 7 234 pages June 1978 £6.75/£13.50 (cloth) 0471 58111 9 234 pages June 1978 £3.75/£7.50 (paper)

**BUSINESS ECONOMIC PLANNING: Theory, Practice and Economic Planning** by G. Eliasson, Federation of Swedish Industries, Stockholm. An analysis of various aspects of the formal planning systems in use in some North American, British and continental European corporations. A book of reference which is descriptive rather than prescriptive. 0471 61813 8 824 pages November 1976 £7.00/£14.00

**PRIMARY COMMODITY EXPORTS AND ECONOMIC DEVELOPMENT—Theory, Evidence and a Study of Malaysia** by J. T. Thoburn, University of East Anglia. Presents a study of Malaysia and its primary commodity exports in the context of a general discussion of developing countries in world trade, and an extended treatment of theories of trade and development. 0471 59441 3 approx. 380 pages In Press approx. £8.75/£16.50

**THE ARENA OF INTERNATIONAL FINANCE** by C. A. Coombs, Retired Official, Federal Reserve System. Examines international monetary cooperation during 1980-1976, giving particular attention to development of the Federal Reserve intercentral bank credit facilities. Includes eye witness accounts of some major events in recent financial history. 0471 61813 8 224 pages October 1978 £7.50/£15.00

Text catalogues in the following subjects are available from Wiley at the address below.  
 Economics & Management; Mathematics, Statistics, Computing; Physics; Chemistry; Life Sciences; Geography & Geology; Psychology & Sociology.  
 John Wiley & Sons Ltd., Baffins Lane, Chichester, Sussex PO19 1UD.

If you like what you read in THE TIMES Higher Education SUPPLEMENT, make sure of your weekly copy by placing an order with your newsagent



# New from Heinemann

**The United Kingdom Economy**  
The National Institute of Economic and Social Research  
An authoritative, up-to-date survey of all the main aspects of the British economy today. Originally commissioned by the E.E.C. and written by the most prestigious independent economic research unit, the text and statistics have been updated to April 1976. £1.25

**Project Appraisal in Practice**  
M.F.G. Scott, J. MacArthur, D. Newbery  
An application of the Little and Mirlees method of project appraisal in Kenya. Over a hundred shadow prices were estimated and used to evaluate part of a land settlement programme and an experiment to determine whether feed-grain could be used to fatten cattle for export. £9.50

**Using Shadow Prices**  
Edited by I. M. D. Little and M.F.G. Scott  
A collection of ten case studies drawn from many areas of the developing world showing the Little and Mirlees method of project evaluation in practice. £6.80

**Case Studies in the Competitive Process**  
P. Barker, K. Blois, S. Howe, P. Maunder and M. Tighe  
A series of case studies on competition in a major sector of the economy (food processing), competition from new entrants (packaged cakes), competition through advertising (household detergents), international competition (aluminium) and competition in the service sector (cross-channel ferries). Students' Book £1.20 Teacher's Guide £1.90

**Case Studies in Regional Economics**  
K. Button and D. Gillingwater  
A series of real life case studies on: The Regional Employment Premium, The Strategic Plan for the North-West, The Greater London Development Plan, and the Regional Policy of the Common Market. Students' Book £1.20 Teacher's Guide £1.90

**Heinemann Educational Books**  
48 Charles Street, London W1X 8AH

## New Economics Titles from Allen & Unwin

**The Finance of Local Government**  
New Local Government Series: No. 6N, P. Hepworth  
Available Hardback £7.95 Paperback £4.50

**Supply in a Market Economy**  
Studies in Economics: No. 71 Richard Jones  
Available Hardback £5.95 Paperback £2.95

**Rich and Poor Countries**  
Studies in Economics: No. 72 Hans W. Singer and Javed A. Ansari  
Jan 27. Hardback £6.50 Paperback £2.95

**Elements of Cost-Benefit Analysis**  
Second Edition E. J. Mishan  
Available Paperback £2.95

**An Introduction to Industrial Economics**  
Second Edition P. J. Devine, R. M. Jones, N. Lee and W. J. Tyson  
Available Paperback £6.50

Please tick the appropriate box if you would like inspection copies of those paperbacks and return to College Sales Department, George Allen & Unwin, Park Lane, Homal Hempstead, Haris. HP2 4TE.  
 Please send me your list of new books.  
Name: \_\_\_\_\_  
University/Polylechnic/College: \_\_\_\_\_  
Address: \_\_\_\_\_

If you like what you read in  
**THE TIMES**  
**Higher Education**  
SUPPLEMENT  
make sure of your weekly copy by placing an order with your newsagent

# BOOKS

## Development truths

Insight on Development  
by P. T. Bauer  
Weidenfeld & Nicolson, £6.50 and £3.95  
ISBN 0 297 77220 1 and 77221 X

From its largely forgotten origins in the 1930s, development economics blossomed rapidly in the postwar period as a political influence and source of employment for social scientists; as yet it shows no sign of withering. Its leading ideas have been in harmony with predominant political opinion. The faith in economic mechanisms that persisted until 1931 has been replaced by belief that economic order and progress are administrative creations. Relationships of prices and costs have been rated less significant than technical coefficients. Individual and other private actors in the world economy have been subsumed in "nations" credited with interests, aspirations, needs and self-respect and regarded as appropriate categories of economic analysis. Further growth of substance for development economics has been discovered by richer governments that financial and technical aid given in the name of development could be an important dimension of foreign policy.

The result has been that at its most unrepresentative worst development economics has been marked by ignorance of neglect of elements of economic theory, collectivist and nationalist ideology in which personal preferences and ambitions are held in contempt, lack of historical sense, and reluctance to relate hypotheses to experience. Political objectives have been paramount and political acceptability rather than truth, has determined the standing of propositions and doctrines.

Not everyone has been taken in. Dissenters from orthodoxy have been economists strongly attached to economic reasoning, possessed of historical sense, or endowed with intellectual integrity better than average. No doubt membership of a minority ideology has also helped. Examples include S. H. Frankel, Jacob Viner, H. Myint and H. G. Johnson. Foremost among them has been Professor Bauer, who had the advantage of undertaking detailed empirical work on the Malayan rubber industry and West African trade in the nascent years of development economics and came to the subject both armed and about his ears. Since the appearance in 1957 of his Cambridge Economic Handbook, *The Economics of Underdeveloped Countries*, written jointly with Basil Yentis, has been the prolific, patient, tireless critic of the literature of his subject, never flinching in asking the awkward question ("Who is Asia?"), citing the inconvenient fact, or seeking out the buried assumption.

There now appears a new edition of his papers, containing about three-fifths of what was provided under the same title in 1971. Omitted are the paper on "the spurious consensus" in development economics, the "case studies" (which were mainly of West Africa—Myrdal, Lewis, Rostow and others—Retained are eight papers written mostly revised and expanded in 1971. Their topics include: hypotheses of the vicious circle of poverty and the widening gap, control planning and foreign aid, colonialism and underdevelopment, countries, the underdevelopment economics, the UNCTAD of 1964, an inaugural lecture at Myrdal's *Asian Drama*, also revised. *Dissent* in hardback, the abridged than did the larger collection of 1971; but a paperback is also now available and could well be first choice on the funds of any student physicist to be taken before he enters the tropics of the mind.

Douglas Rimmer

## Perfect competition

Supply in a Market Economy  
by Richard Jones  
Allen & Unwin, £5.95  
ISBN 0 01 330270 X

Richard Jones's *Supply in a Market Economy* is a prolonged defence of the standard, neo-classical, profit-maximising, "let's assume everyone has perfect knowledge" approach to the theory of the firm. It has the traditional emphasis on perfect competition—hence the title—since only perfect competition normally provides a unique supply curve.

For one who is not convinced that perfect competition does, did, or ever will exist, there is special interest in reading this attempt to defend the traditional view. In addition Jones gives a fairly detailed outline of conventional theory and a very brief survey of alternative theories.

Considerable space is given to presenting a part of the mountain of empirical evidence which has been marshalled against "received" theory. Economics of large-scale production, the divorce of ownership from control, the demise of the entrepreneur, the domination of manufacturing industry by oligopoly—evidence on all of these and more is disarmingly accepted as having much force and as showing that the assumptions of the perfectly competitive model are not generally valid.

Because of this evidence "the most significant single implication of the case expounded by writers such as Galbraith has been that economic theory is irrelevant to understanding of modern capitalist society". This, Jones believes, has led to most unsatisfactory state of affairs in which a distinction is drawn between economic theory

and "something which is, in the eyes of economists of the real world, the only perfect competition model which is not false, or at least not as false as the model which is false". Firms may not be small, or managed or managed by a few, or even all the assumptions of perfect competition may well be unrealistic. The important question is whether the predictions of the model are right in a general sense. If it does not relate to the real world, the model is false. Jones concedes that Friedman and his followers have advanced evidence in support of perfect competition. But he points out, with detectors, it does not predict.

Chapter seven is chief interest. It gives examples of the use of the model. These consist of supply and demand curves which produce some rather surprising conclusions from such areas as control, taxation, water supply, crime. The assumptions of the model may not fit any of the cases examined, but the model is useful. Maybe so, but its uncontroverted conclusions are drawn are simple and consistent with scores of models. The real problem is that the model is used to draw general conclusions. It is not clear how the model is to be used. It is not clear how it is possible to be sure that the model leads to a valid conclusion.

C. J. Hall

## Ownership

Relative Income Shares  
by John King and Philip Regan  
Macmillan, £1.95  
ISBN 0 333 18454 8

Inequality in the distribution of personal income depends on the contribution of personal wealth, on the distribution of earned incomes and on the relative importance of income from employment and property. This last aspect forms the central theme of this book.

The authors begin with a critical review of concepts and quickly concentrate on what they see as the key feature of the topic: the share of property income as a whole. For them, it is the social fact of ownership—which underpins property incomes of all types and which establishes their underlying worth. On the basis of this argument the authors concentrate upon income distribution in terms of labour and property. The latter including corporate profits plus interest and rent plus the imputed property income of the self-employed.

There is an extended discussion of the "constancy" to empirical results hypothesis—that labour's share of profits remains constant. The weight of the evidence they "come out against" the hypothesis. On the widely accepted view of a rapid decline in the share of corporate profits since 1964, the authors show that the decline in the share of property income as a whole is been much less.

Their discussion of the main theories which set out to explain the observed empirical pattern is presented clearly, though a synthesis of the various theories would have been helpful in putting the pieces together and in providing a clearer perspective for the reader. In view of the changes in the economy and social structure of modern industrial societies more attention could have been given to examining the relationship between the shares of national income and the distribution of personal income in the modern world of pension schemes, home ownership and profit sharing, and the interests of the different classes are no longer so clear cut.

P. C. McMahon

## Reviewers

Among this week's reviewers:  
M. C. Casson is lecturer in Economics at the University of East Anglia, Norwich, is professor of Economics at the University of East Anglia, Norwich.  
Frank Hahn is professor of Economics at Cambridge and a fellow of Churchill College.  
David Martin is professor of Economics at the London School of Economics.  
Ian Millar is professor of Chemistry at the University of Keele.  
Alan Milward, professor of European studies at UMIST, is also a member of the German Economy at the University of Cambridge.  
Dennis Swinn, professor of Economics at the University of Birmingham, is author of *The Economics of the Common Market: Competition in British Industry*.

## Everybody needs...

**Everyman's Dictionary of Economics**  
Revised edition containing 900 new words compiled by ARTHUR SELDON and F. G. PENNANCE  
No serious trade union student of economics can be without it!  
Chaplin Gen. Sec. IFTU  
Lucidity, accuracy and balance  
S. R. DAVENPORT Vice-Chancellor  
University of Hull

"a language we should all know" "wit and ammunition as well as education" "the Director" "excellent, precise, readily understandable" T.L.S. "a remarkable piece of work" Sunday Telegraph "a model of clarity and authority" every thinking voter should have one! *Yorkshire Post* "monumental labour's accessible exposition... invaluable, splendid performance" Lord Robbins "plain man's friend and guide" *Eastern Daily Press* "provides much valuable enlightenment" *Financial Times* £4.95

DEAN

# Classified Advertisements

Index to Appointments Vacant, Wanted and other classifications

Appointments vacant  
Universities  
Fellowships & Studentships  
Polytechnics  
Technical Colleges  
Colleges and Institutes of Technology  
Colleges of Education  
Colleges of Further Education

Colleges and Departments of Art Administration Overseas Government Industry Adult Education Librarians General Vacancies

Appointments wanted  
Other classifications  
Awards  
Announcements  
Exhibitions  
For Sale and Wanted  
Courses  
Holidays and Accommodation  
Typing and Duplicating

## DEAN of the City University Business School

The post which is open to both men and women, has fallen vacant following the retirement of Mr. David Glen, O.B.E., M.A. The salary for the post is within the range for professors, and superannuation is in accordance with the provisions of the Universities Superannuation Scheme. Further particulars may be obtained from

The Academic Registrar,  
The City University,  
St. John Street, London EC1V 4PB

## UNIVERSITIES AND POLYTECHNIC COMPUTER CENTRE

Applications are invited for the post of

### MANAGER

The Centre, jointly owned by the three tertiary level educational bodies in Hong Kong (The University of Hong Kong, The Chinese University of Hong Kong and the Hong Kong Polytechnic), provides a comprehensive computer service to its member institutions. Computer systems installed include a central ICL 1904A at the UCC site, ICL 1902 at the HKU, IBM 370/125 at the CUHK, and PDP 11/70 and NOVA 3/12 at HKP.

The Manager is responsible for the full operation of the Centre in accordance with policies set down by the Board of Management and/or its Committees. He will report to a Steering Committee consisting of a representative from each of the member institutions.

Applicants should possess proven experience at a senior level in the management of an educational computer installation.

Appointment will be made on the scale HK\$7,145 to HK\$9,625 per month (£1=approx. HK\$8, \$1 U.S.=approx. HK\$10). Starting salary will be commensurate with qualifications and experience. Appointment initially will be on 2-year gratuity-bearing terms. The appointee may be offered a renewal of the contract or permanent terms of service thereafter. Benefits include passages, long leave quarters, medical care, education allowance and a terminal gratuity equal to 25 per cent of basic salary received over the contract period.

Letters of application, giving the names and address of three referees, together with full resumes, should be forwarded to the Director, UCC, c/o Secretary's Office, Hong Kong University, Hong Kong, not later than three weeks from the appearance of this advertisement.

## AUSTRALIAN GRADUATE SCHOOL OF MANAGEMENT

UNIVERSITY OF NEW SOUTH WALES  
Sydney, Australia

### LECTURER/SENIOR LECTURER APPOINTMENT QUANTITATIVE METHODS

The Australian Graduate School of Management is a specially funded, national postgraduate management school established by the Australian government to enhance the availability, quality and relevance of management education.

Applications are invited from qualified persons interested in making progress using mathematical, statistical and econometric methods and models.

Salary within the range \$A13,766-\$A22,010 (senior lecturer); \$A13,950-\$A18,369 (lecturer). Commencing salary according to qualifications and experience.

Further information can be made either to Professor John Simpson in Australia (Tel. 262 5050, Ext. 226) or Professor John Simpson in Australia (Tel. Sydney (02) 262 2604).

For further information, including conditions of appointment, superannuation and study leave, write to: Professor Philip Brown, Director, Australian Graduate School of Management, University of New South Wales, P.O. Box 4 Kensington, N.S.W., Australia 2033. Applications close 31 January, 1977.

## THE LONDON GRADUATE SCHOOL of Business Studies

### LECTURER IN ORGANISATIONAL BEHAVIOUR

Applications are invited for the post of Lecturer in Organisational Behaviour from Social Scientists. The successful candidate, who should have research and/or practical experience in the field, may come from an academic, industrial, consulting, trade union or government organisation. He or she will be expected to contribute to the range of courses in the school; postgraduate, post-experience and special short courses; to carry out appropriate consultancy and to develop research activities.

Salary on the scale £3,804-£7,104 (Inclusive of London Allowance). The successful applicant may be placed at any point on this scale. The appointment will be made from 1st May, 1977 (or later by arrangement). Applications with C.V. and two referees should be sent to: Dr Denis Egan, London Graduate School of Business Studies, Sussex Place, Regent's Park, London NW1 4SA. (Tel. 01-262 5050), from whom further details may be obtained.

Closing date for applications: 10th February, 1977.

## AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Professor \$22,887; Senior Fellow \$22,228 to \$22,502; Senior Research Fellow \$20,170 to \$22,963; Senior Lecturer \$18,780 to \$22,010; Lecturer \$13,800 to \$21,840; Tutor \$8,610 to \$11,468; Further details, conditions of appointment for each post, method of application and application form, where applicable, may be obtained from the Association of Commonwealth Universities (A.C.U.), 38 Gordon Square, London WC1H 0PF.

University of Wellington  
New South Wales  
SENIOR LECTURER/LECTURER IN PHILOSOPHY  
The Department's most immediate needs are in the areas of Formal Logic and Aesthetics; however, applicants from other areas of philosophy will be considered. Preference should preferably be given to senior degree in philosophy and an enthusiasm for, and enthusiasm for, undergraduate teaching.  
February 15, 1977.

University of Melbourne  
LECTURERS DEPARTMENT OF ECONOMICS  
Salary \$A13,552 to \$A17,903.  
Applications for these posts should include a statement outlining in broad terms the research they would propose to pursue if appointed to this continuing post.  
February 28, 1977.

University of Adelaide  
LECTURER OR SENIOR LECTURER IN LAW (Ref. 73)  
Applicants should have, preferably, an Honours Degree in Law and postgraduate academic or professional experience of both. Duties will include teaching in undergraduate courses and the successful applicant will be expected to participate in research activities. Professor may be given to candidates whose interests include Taxation Law and Procedure.  
February 5, 1977.

TUTOR IN GERMAN (Ref. 73)  
To begin duty as soon as possible. A candidate should have a good knowledge of German or its equivalent and a high degree of fluency in spoken German.  
February 28, 1977.

Monash University Melbourne  
DEPARTMENT OF POLITICS LECTURER  
Applicants should preferably have an established research interest in one of the following fields: public policy; Australian politics; political sociology; international relations, but the Department will also welcome applications with interests in political theory.  
March 9, 1977.

Australian National University  
SENIOR RESEARCH FELLOW/RESEARCH FELLOW, CONTEMPORARY CHINA CENTRE  
Research School of Pacific Studies  
The Centre comprises over 20 members of staff and appointments in the Research School are carrying out work on contemporary and modern China.  
The successful applicant will be expected to undertake research in the internal politics of post-1949 China.  
January 28, 1977.

University of Sydney  
CHAIR OF CHEMISTRY (ORGANIC CHEMISTRY)  
Applicants are invited for the above-mentioned Chair which became vacant on the death of Professor E. Ritchie, February 28, 1977.

LECTURERS IN ANTHROPOLOGY DEPARTMENT OF ANTHROPOLOGY  
Lecturers in the field of Anthropology: Linguistics; Preference to applicants with training, teaching, and research interests in both cultural anthropology and linguistics. Applicants should be prepared to promote research and teaching programmes in Australian, South West Pacific, Southern Asia, or South East Asian Studies.  
Lecturers in the field of Modern Community Studies/Urban Anthropology: Appointees expected to foster teaching and research in Australian society.  
March 20, 1977.

TUTOR IN FINE ARTS  
Applications are invited from graduates with honours degree in Fine Arts or an associated discipline who possess a special interest in some aspect of 15th century European art and architecture, preferably in painting or sculpture. Additional interests in other fields of art history may be an advantage and should be stated.  
Duties include supervision of tutorials, preparation of work and some related administrative tasks. Some time will be available for personal research.  
January 31, 1977.

University of New South Wales, Sydney  
LECTURERS SCHOOL OF MATHEMATICS  
Applications are invited for appointments as lecturer in the department of pure mathematics. There are two positions, one of which is a fixed term not exceeding three years.  
Further information regarding teaching and research in the department of pure mathematics may be obtained from the Head of Department, Professor G. B. Brown, P.O. Box 115, Kensington, N.S.W. 1585, or from Professor G. Brown, P.O. Box 115, Kensington, N.S.W. 1585.  
February 17, 1977.

LECTURER/SENIOR LECTURER SCHOOL OF PSYCHOLOGY  
Applicants are sought from those with special interests and qualifications in any field of psychology, although preference may be given to those with particular experience in an experimental approach to clinical problems.  
Professor L. R. Brown, Head, School of Psychology, may be contacted at his home from January 4, 1977, at 22 Seton Avenue, Richmond, Surrey (S40 1437).  
January 31, 1977.

THE ASSOCIATED EXAMINING BOARD FOR THE GENERAL CERTIFICATE OF EDUCATION  
Wollaton House, Aldershot, Hampshire, GU11 1AQ  
Applications are invited for the post of SENIOR EXAMINER in PSYCHOLOGY at Advanced Level.  
Applicants should be graduates with at least five years' experience of teaching at this level.  
Application forms and particulars may be obtained from the Board's offices, (A) at the Board's offices, (A) at the Board's offices, (A) at the Board's offices.  
March 31, 1977.

THE ASSOCIATED EXAMINING BOARD FOR THE GENERAL CERTIFICATE OF EDUCATION  
Wollaton House, Aldershot, Hampshire, GU11 1AQ  
Applications are invited for the post of SENIOR EXAMINER in PHYSICS at Advanced Level.  
Applicants should be graduates with at least five years' experience of teaching at this level.  
Application forms and particulars may be obtained from the Board's offices, (A) at the Board's offices, (A) at the Board's offices, (A) at the Board's offices.  
March 31, 1977.







